FXC USER'S GUIDE

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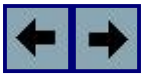
Revision History

For best viewing, narrow browser window to approximately 12 inches width.



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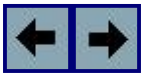

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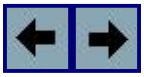


1. Introduction

FX Connect (FXC) is a real-time meteorological display system with collaborative capabilities. FXC is the main component of a development project which explores distributing workstation and server functions over different remote locations. A unique feature of FXC is that it can accommodate the interaction of forecasters at different locations through a graphical user interface. When connected to an AWIPS Server, FXC allows the display of selected data and imagery over which graphics may be created,

manipulated, and viewed by remotely located collaboration participants.

This Guide provides a brief overview of the system architecture and describes the many functions available from the FXC User Interface. The system emulates the AWIPS User Interface design and takes advantage of the display generation capabilities of AWIPS. As this system is applied to the needs of various users, some customization of the Main Menu and data selectors has occurred. Slight variations will exist in Main Menu layout and content. This Guide applies generally to systems known as FX Connect, FX Collaborate, and the Briefing Tool.

FXC features include the conventional capabilities of:

- Display of diverse data sets (images, observations, and text);
- Interactive display manipulation (zoom, pan, toggle overlays, overlay color);
- Interactive display generation (cross sections, time series, time/height, model soundings);
- Extensive manual graphic and annotation tools;
- Display procedures.

Advanced capabilities of FXC include:

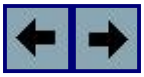
- Slide creation and presentation;
- Chat capability;
- Internet access to WWW products
- Display of radar data from any WSR-88D radar;
- Creation and display of JPEG images;
- Independent or collaborative mode of operation.

1.1 Scope

This document serves a guide to the use of FXC in data display, interactive graphics creation, and forecaster collaboration. Technical details of FXC architecture and server configuration will be described in separate documents.

1.2 Intended Audience and Assumed User Skills

This guide is intended for use by weather forecasters and other users of hydrometeorological data. We assume that users of this Guide have a basic understanding of, and experience with, using a mouse to navigate a graphic user interface. This includes such operations as opening, closing, resizing, and moving windows, and selecting items from menus. While FXC is designed to have a "look and feel" similar to that of AWIPS D2D, knowledge of D2D is not necessary for the successful use of FXC. However, familiarity with AWIPS D2D and its associated data and displays should be helpful in learning to use FXC.



2. FXC Architectural Overview

The FXC System consists of two major components: the client component that allows the user to display and interact with meteorological data and the servers that are responsible to provide various types of data to the client. For some applications (e.g. Briefing Tool) the client and servers reside on the same machine.

The FXC Server comprises a collection of server processes: DepictableServer, ScribbleServer, ChatServer, BaselineServer, PointServer, DispatchServer, and FileMonitor. The wo servers that are of particular interest are the DepictableServer and ScribbleServer. The DepictableServer is responsible for interfacing with the AWIPS Software and exporting graphic products. It must therefore be hosted on a machine that has direct access to the AWIPS Database and is able to run the AWIPS 5.0 (or later) software. The ScribbleServer is responsible for coordinating graphical annotations among multiple users. The location of the ScribbleServer and other servers is more flexible and it is anticipated that in the future, FXC may actually reassign these server processes automatically if the hosts fail. During a collaborative session each server communicates with the clients independently, i.e., it does not broadcast the data to all clients. As a result, some degradation in performance may occur when a large number of clients are connected for a collaborative session.

Although the AWIPS Database is the primary and most extensive source of data, FXC can also obtain data (in image form) from

Web servers and integrate data from other sources. The local data integration capability is restricted at this time to display of surface data that has been stored in netCDF format. Figure 1 illustrates the different data sources available to a user.

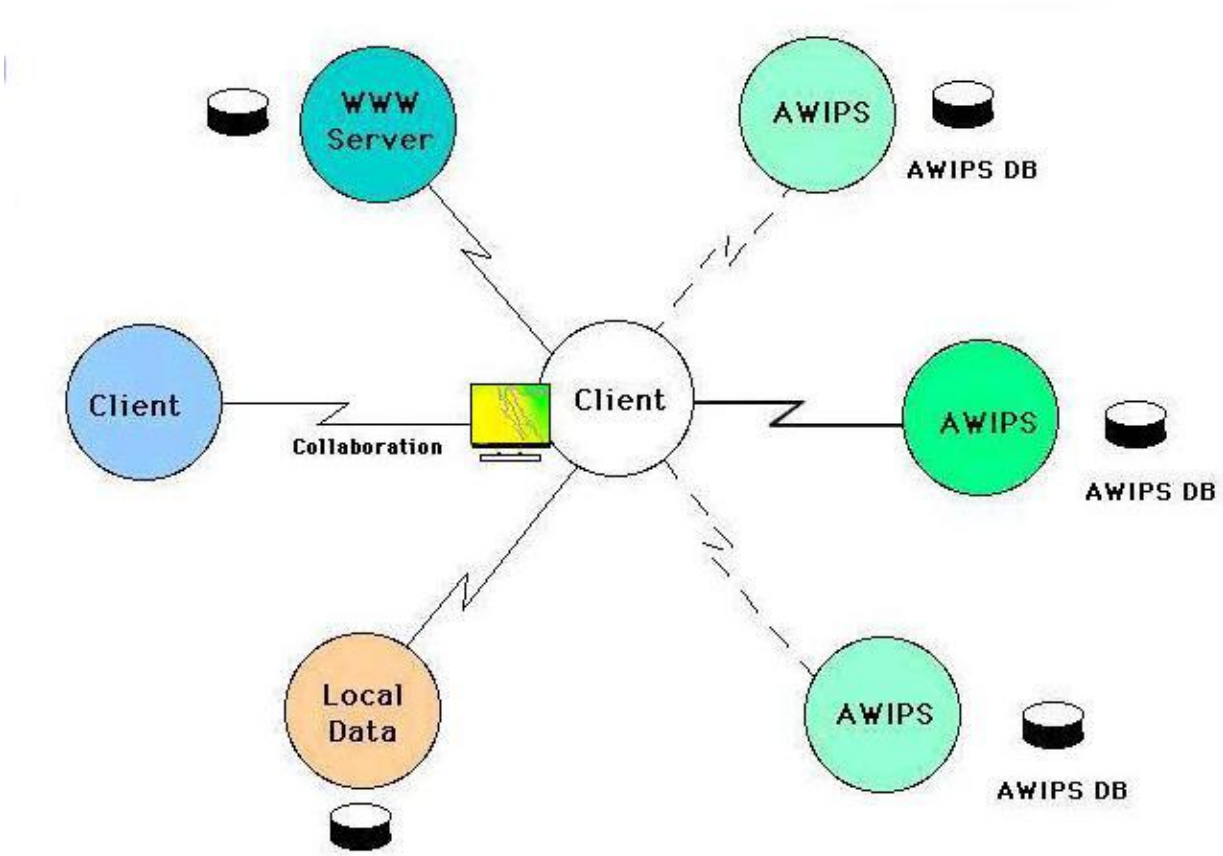


Figure 1. FXC Architecture Diagram

FXC Clients are usually located remotely. In order for a client to connect to a server, the user selects the desired server from the FXC Menu. Once the connection is made to the server, the client has access to most of the AWIPS Database at the host office. Some menu item and table changes are necessary to add additional AWIPS products to the FXC User Interface.

FXC is a Java 1.4 application that incorporates Remote Method Invocation (RMI) and is multi-threaded. FXC executes on PCs running Win98, WinNT, Win2000, Windows XP, and Linux. Recommended machine attributes include 1 GHz cpu speed, 1 GB RAM, and 20 GB or larger disk. A network connection (DSL, ISDN, or Ethernet) is also necessary. FXC is able to retrieve processed data from an AWIPS Database, web server, and local databases.

2.1 FXC Operating Modes

FXC has three basic operational modes: local, remote, and collaborative.

- **Local Mode** - In local mode, the client is not connected to any AWIPS Server. However, the user does have access to selected data from remote Web servers and possibly some local data. This mode is useful for preparing briefing displays that do not require real-time data.

- **Remote Mode** - In remote mode, the user is connected to an AWIPS Server that the user has selected from the FXC Menu. This allows the user to access real-time meteorological data at the remote server. The user can display a variety of data and perform such functions as zooming, panning, changing colors, overlaying graphics, and animation on the client. The FXC Server can accommodate a number of concurrent and independent clients. The maximum number of clients is controlled from a menu on the server.

- **Collaborative Mode** - In collaborative mode, the user can perform all of the same functions as in remote mode with the added capability of simultaneously updating or controlling the screen of other users. An extensive drawing

capability is available that allows the user to annotate the screen and share the annotation with the other collaboration session participants. There is also a chat capability that allows users to exchange text messages. Only one collaborative session can be held at a time. All users connected to a common server are part of the same session. The session can remain active although all clients have disconnected from the server. This allows users to rejoin the session at a later time.

2.2 Input Devices

There are two devices which enable the user to put information into the FXC Graphical Interface to invoke a desired action: a mouse and a keyboard.

2.2.1 Keyboard Functions

The keyboard is used to enter text in the Discussion Graphic User Interface for "chat" functionality with collaboration participants. The keyboard is also used to enter AFOS text product identifiers into the text interface. Additionally, the keyboard is used for annotating manually-generated graphics. Most FXC display functions may be performed using the keyboard by holding the Alt Key and striking the "Hot Key" indicated by an underlined character in every menu and submenu. Finally, certain menu commands may be invoked using "Accelerator Key" combinations listed to the right of the associated menu items; for example, Ctrl+A will toggle looping just as if the user selected the Looping Menu item.

2.2.2 Mouse Functions

The mouse is used in a conventional manner for all other FXC actions. The mouse functions are designed for a three-button mouse. In the event that FXC is running on a system with a two-button mouse, middle button functions may be accomplished by depressing and holding the "Alt" Key and clicking with the left button. Two examples of middle-button functions are zooming a display or toggling the Manual Graphics to editable mode.

Basic display functions of zoom, pan, and unzoom are performed using the mouse. Clicking the middle mouse button will cause the display to incrementally zoom, centered on the position of the mouse cursor. One click of the left mouse button will incrementally unzoom, with the resulting display centered on the position of the cursor when clicked. To pan a zoomed display, depress and hold the middle mouse button, then drag the cursor in the desired direction to shift the display. The panned display will center on the location of the mouse cursor when the middle button is released.

Displayed products may be toggled on and off by placing the mouse cursor over the desired product legend (in the lower right portion of the display) and click once with the left mouse button. To change the color of a graphic overlay or background map, place the mouse cursor on the desired product label and click once with the right mouse button to reveal a pop-up menu with color selections. Additionally, any individual displayed product may be unloaded from the display by placing the mouse cursor over the selected product label and clicking once with the right mouse button, revealing a pop-up menu, and selecting the "Unload" option.

Other mouse functions are toggling background maps and map legends on and off of the display, and unzooming to 1:1. These display controls are available in a pop-up menu which is revealed by placing the mouse cursor anywhere in the main display window and clicking once with the right mouse button. The resulting pop-up window offers:

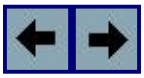
- Show Maps (toggle on or off);
- Show Map Labels (toggle on or off);
- Zoom 1:1.

Summary of mouse button functions:

- **Mouse Button 1 (left)** - click to zoom out (unzoom). The resulting display will be centered on the cursor.

NOTE: *Unzoom is disabled with any editable graphic (Baselines, Points, Drawing Tools) in the display. Toggle the editable graphic to uneditable to unzoom.*

- **Mouse Button 1 (left)** - click with cursor over a product legend to toggle that product on or off of the display.
- **Mouse Button 2 (middle)** - with cursor in the display window, click to incrementally zoom. Zoomed display will be centered on the cursor position.
- **Mouse Button 2 (middle)** - with cursor over an editable product legend (Baselines, Points, Drawing Tools), click to toggle between editable and not editable.
- **Mouse Button 2 (middle)** - depress and hold button while dragging cursor to pan a zoomed display. Display will center on cursor when button is released.
- **Mouse Button 3 (right)** - click with cursor over a product legend to open a popup menu from which you can change overlay color or unload that product from the display.
- **Mouse Button 3 (right)** - click with cursor anywhere in the display to open a popup window that provides options to zoom out to 1:1, or to toggle map backgrounds and map legends.



3. User Interface Description

To start the FXC session, double click on the "FXC" Icon. After a few seconds, the FXC Window will appear. The FXC User Interface, as shown in Figure 2, includes a Title Bar, Menu Bar, Main Toolbar, Display Pane, and a Status Bar. FXC will initialize with several default display settings. All settings and selectors will be described in subsequent sections.

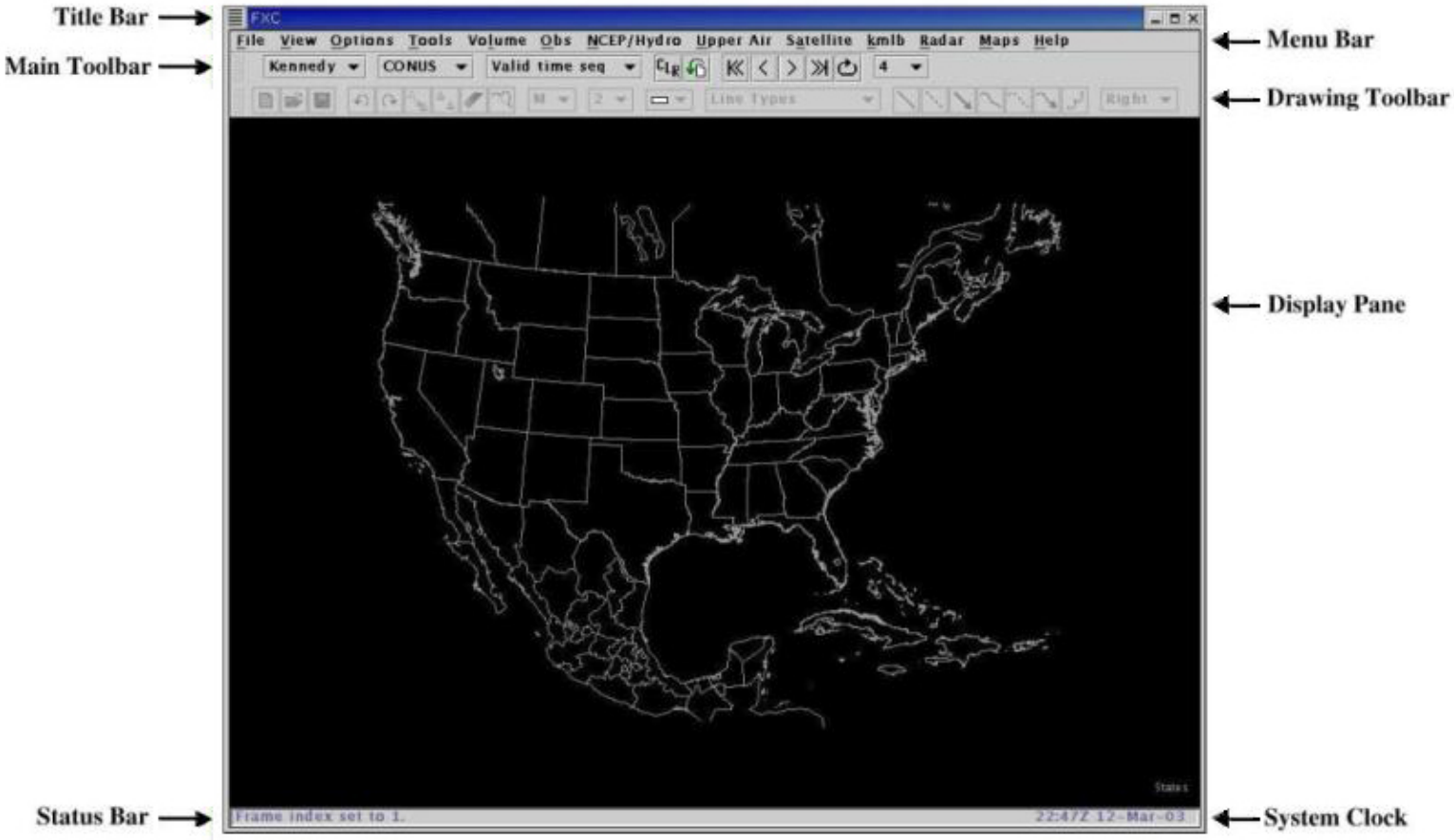


Figure 2. Initial State of the FXC User Interface

3.1 Menu Bar

The Menu Bar is located at the top of the FXC Window, just below the FX Connect Title Bar. It is a permanent part of the window and cannot be hidden or relocated. All menus are selected with one click of the left mouse button. The following sections describe each button on the Menu Bar. All of FXC actions may be performed with selectors in the Menu Bar Pull-Down Menus or by selecting the corresponding button on the Main Toolbar.

3.1.1 File Menu

The File Menu, shown in Figure 3, provides basic file operations and related functions. It also includes the Exit Button to close the FXC Window.

Figure 3. File Pull-Down Menu

- GIF/JPEG/PNG Background...

  This selector opens a window for selecting the desired image file. Any GIF, JPEG, or PNG image available on the local (or NFS mounted) disk can be loaded into the display window. The image will be loaded into the frame currently selected and displayed. By advancing the frames, the user can load different images into each frame. When in collaborative mode, these images are also shared with the other FXC Clients. A File Browser Menu pops up when this selection is made that allows the user to choose the desired directory and file to be loaded.
- Save as JPEG...

  Any product or combination of products (i.e., overlays and manual graphics) displayed on the FXC Display Pane may be captured in JPEG format. This allows users to create meteorological products that can be placed on a Web server for access by the public or a selected set of users, or to create a slide for use in a slide show. Upon selecting "Save as JPEG...", a window appears in which to specify filename and directory to be used.
- JPEG Resolution...

  This sets the default width for any JPEG that is saved with the "Save as JPEG" or "Send to Web Server" selector. The height of the JPEG image is adjusted so as to retain the proper aspect ratio.
- Send to Web Server

  The user has the ability to create a JPEG image of the display and send it to a Web server for access with a Web Browser. The location of the server is defined during software installation.
- Close Web Discussion

  Replaces the Web image on the Web server with a default image.
- Capture D-2D Display

  When you select this option, the data that are displayed within the large pane on D2D with be copied and brought into the large pane on the FXC Briefing Tool. (This feature is only available if FXC is running on an AWIPS Workstation. This is not a remote capability).
- New Procedure...

  (This is a similar to the Procedures feature on D2D, with a few limitations.) The user has the ability to create a procedure that consists of a sequence of meteorological products that have been loaded to the large display pane from the FXC Pull-Down Menus. Data that are overlaid together on the large display pane are called Bundles, a shown in Figure 4.

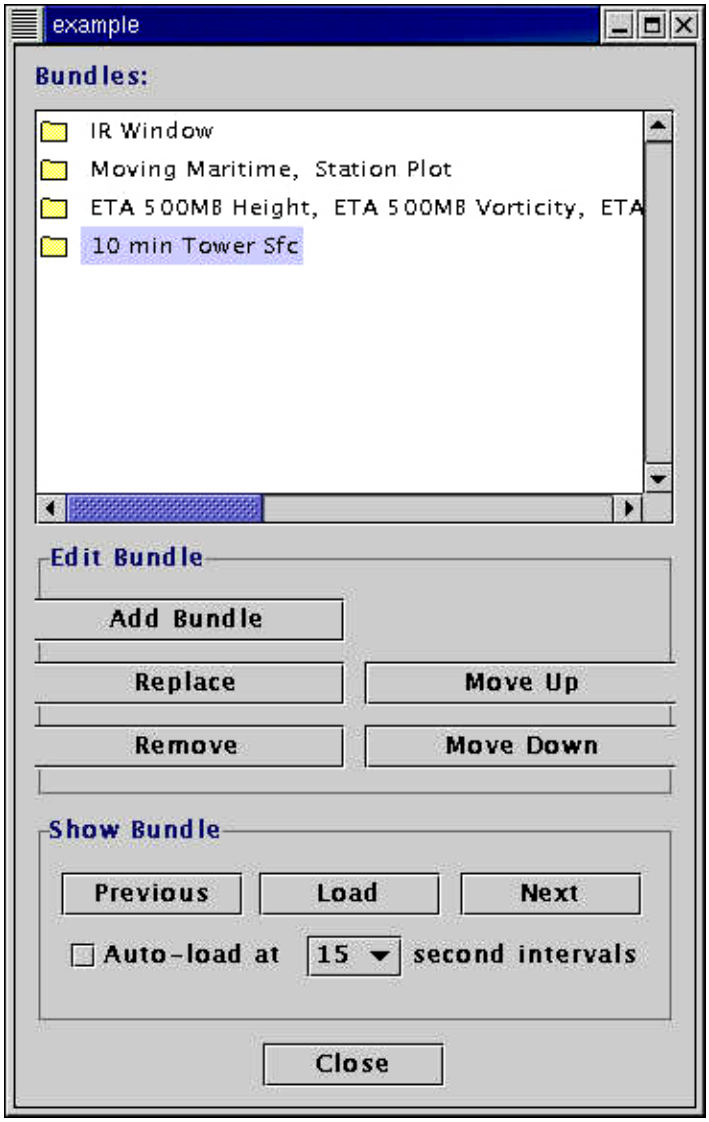


Figure 4. FXC Procedure Dialog Box

- Open Procedure...

  This option opens the Open Procedures Dialog Box, which contains a list of existing Procedures.
- Copy Procedure...

  If you want to generate a copy of an existing Procedure, use this option to open the "Procedure to be Copied" Dialog Box. Select the name of the Procedure you wish to copy and press the OK Menu Button. Immediately the New Name for Copy Dialog Box opens in which you can type in a new name for the copied Procedure.
- Remove Procedure...

  This option allows you to permanently remove a Procedure through the Remove Procedure Dialog Box which lists all existing Procedures. To remove a procedure, select the procedure to be removed (one click with the left mouse button to highlight the procedure to be deleted), then select "OK."
- New Slide Show...

  The FXC Briefing Tool allows you to create a list of image, text, or combined image-text "slides" to be used for presentations and weather briefings. You can build each slide using D2D weather products, weather briefing text templates that can be edited to include up-to-date launch weather information, or you can import any image files (in JPEG, PNG, or GIF format). Refer to Figure 5.

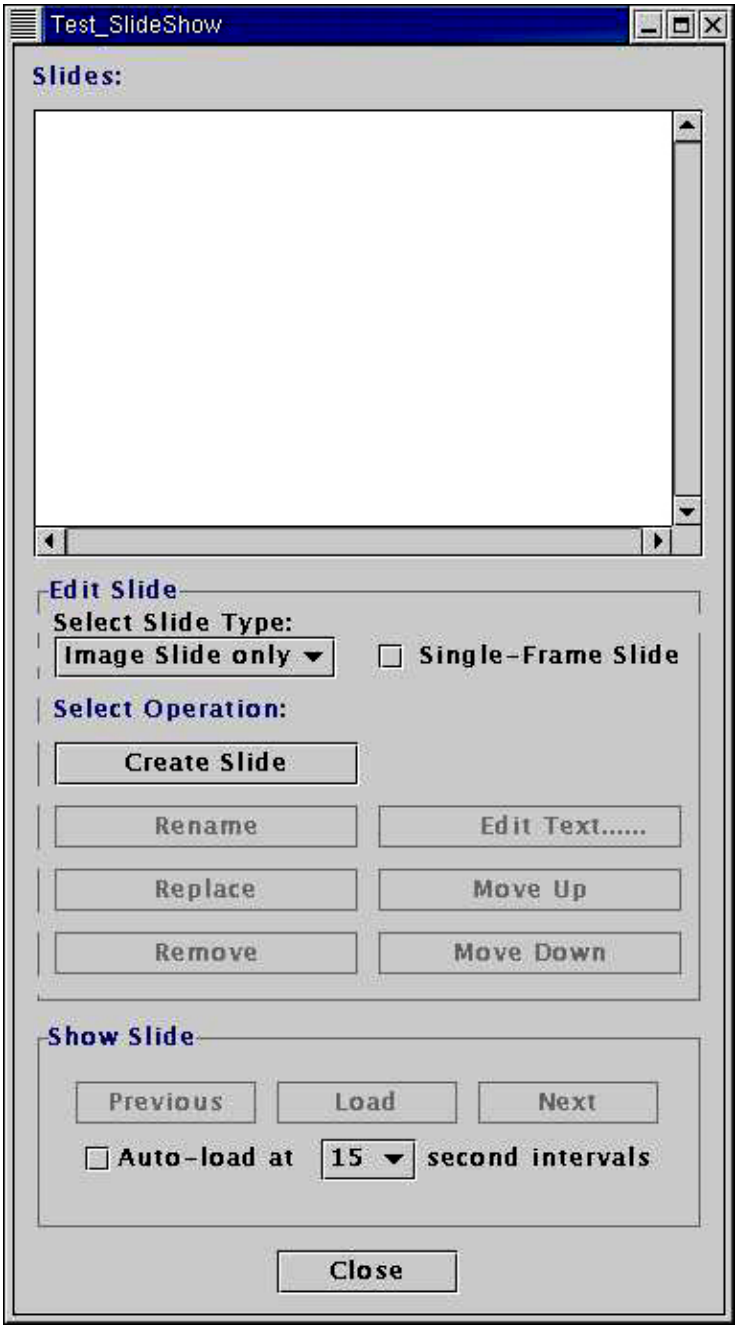


Figure 5. FXC Slide Show Dialog Box

- Open Slide Show...
  This option opens the Open Slide Show Dialog Box which contains a list of existing slide shows.
- Copy Slide Show...
  If you want to generate a copy of an existing slide show, use this option to open the "Slide Show to be Copied" Dialog Box. Select the name of the slide show you wish to copy and press the OK Menu Button. Immediately the New Name for Copy Dialog Box opens in which you can type in a new name for the copied slide show.
- Remove Slide Show...
  This option allows you to permanently remove a slide show through the Remove Slide Show Dialog Box which lists all existing slide shows. To remove a slide show, select the name to be removed (one click with the left mouse button to highlight the procedure to be deleted), then select "OK."
- Set User Information...
  (Not activated for all users) Allows users to specify the name to be used for chat sessions. This name is also used by the server to allow or disallow a user to connect to the server. The User Information Menu also lets the user select the color to be used for all text generated by the user during a chat session.
- Log Messages
  Diagnostic messages are being generated and recorded for most actions performed by the user. The messages are stored in the /FXC/fsl/data/logs directory. These messages make it possible to troubleshoot the system

should an error occur. The logs should be purged regularly to prevent the disk from eventually filling up. The user can disable the logging function each time the system is started by toggling this switch off.

- Exit

  This causes the FXC Client to terminate and close all FXC Windows displayed on the screen.

3.1.2 View Menu

The View Pull-Down Menu, shown in Figure 6, contains options for manipulating the display. Most of these options are available in the more accessible toolbars, but are intentionally included in the View Menu for design redundancy.

Figure 6. View Pull-Down Menu

- Clear

  This menu option removes all data products from the display pane, leaving only the original map background. This same action is more commonly performed from the Clear Button on the toolbar.
- Reload

  Use this menu option, or the Reload Icon in the Toolbar, to display the most recent data that were cleared from the FXC Display.
- Step Back/Step Forward

  These two menu options advance the data frames that are displayed forward or backward through time. The more typical way to perform these same actions are with the Arrow (<>) Buttons on the toolbar.
- First Frame/Last Frame

  Use these two menu options to jump to the first or last data frames. It is easier to perform these same actions by using the First Frame (|<) and Last Frame (>|) Buttons on the toolbar.
- Looping

  This radio button toggles on/off the animation capability, which can also be performed from the toolbar using the Loop Icon.
- Previous Bundle/Next Bundle

  These options can be used when displaying data products through the Procedures feature. Refer to Subsection 4.2 for more information about Procedures.

3.1.3 Options Menu

The Options Pull-Down Menu, illustrated in Figure 7, contains selectors for controlling data display characteristics.

Figure 7. Options Pull-Down Menu

- Data Scale

  This feature, when toggled on (check-marked), causes the next product selected from the data menus to be loaded on the appropriate scale. For example, when a single site radar product is selected from the menu, with "Data Scale" toggled on, the radar image will be displayed on a radar-scale map background.
- Display Properties...

  This submenu, shown in Figure 8, includes additional submenus that allow you to manipulate the display properties of the FXC Display Panel.

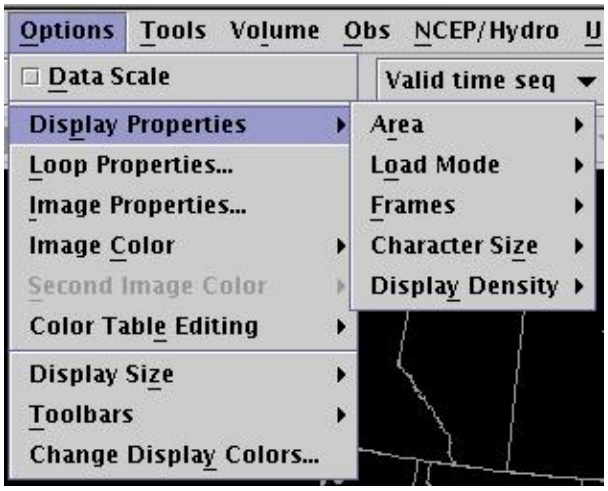


Figure 8. Display Properties Submenu

- Area

  AWIPS data is stratified into geographic scales, as shown in Figure 9. The geographic scales are organized to "funnel" in on a specific local area. Each geographic scale may have data sets unique to that scale. For example, mesonet data would not be available on North American scale. Data displayed at higher scales typically contain coarser resolution.

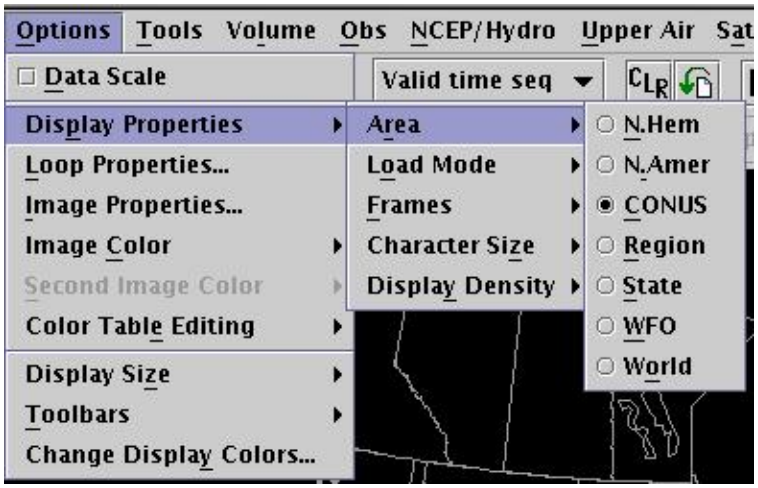


Figure 9. Area Submenu

- Load Mode

  The Load Mode Submenu is shown in Figure 10.

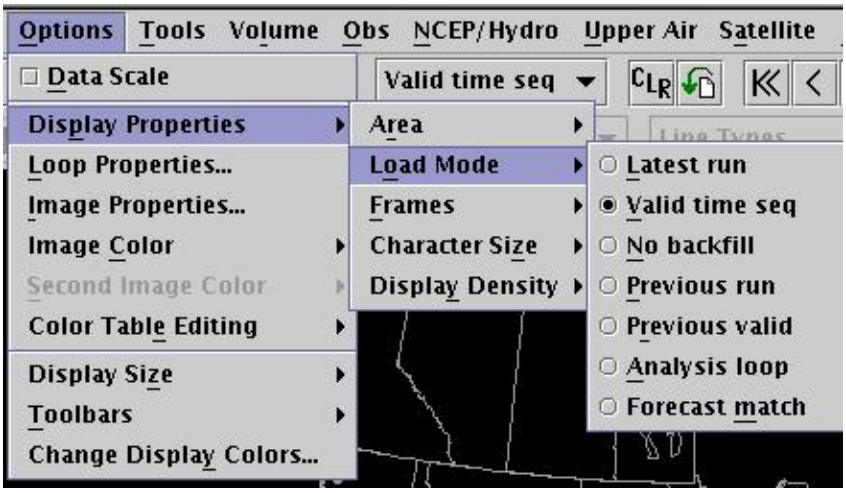


Figure 10. Load Mode Submenu

Each time you select a product from the menu, a number of frames (equal to the frame count) are loaded into memory. Normally, each frame is loaded with a sequentially older product. However, sometimes you may want to view products in a different manner. This menu allows you to select from a number of different Load Modes. A brief description of each Load Mode follows.

- **Latest Run** - Displays forecast data only from the latest model run, but also backfills with frames from previous runs at the beginning of the loop to satisfy the requested number of frames.
- **Valid Time Sequence** - This Load Mode displays the most recent data and fills empty frames with previous data. For models, it provides the product from the latest possible run for every available valid time.
- **No backfill** - Displays model data only from the most recent model run time with no backfilling to fill out a loop. Using this Load Mode prevents the mixing of old and new data.
- **Previous Run** - Displays the previous model run, backfilling with frames from previous runs at the beginning of the loop to satisfy the requested number of frames.
- **Previous Valid Time Sequence** - This Load Mode displays the previous model run and fills empty frames with previous model data or analyses.
- **Analysis Loop** - This Load Mode loads a sequence of model analyses, but no forecasts.
- **Forecast Match** - Overlays a model product only when its forecast times match those of an initially loaded product. This Load Mode is available only when another product is already loaded in the large display pane.

- Frames

  Use this menu, which is depicted in Figure 11, to select the number of frames to load to a display animation. Keep in mind that longer animation loops take more time to load, so adjusting the frame count to a low value will facilitate faster loading, especially through a modem connection.

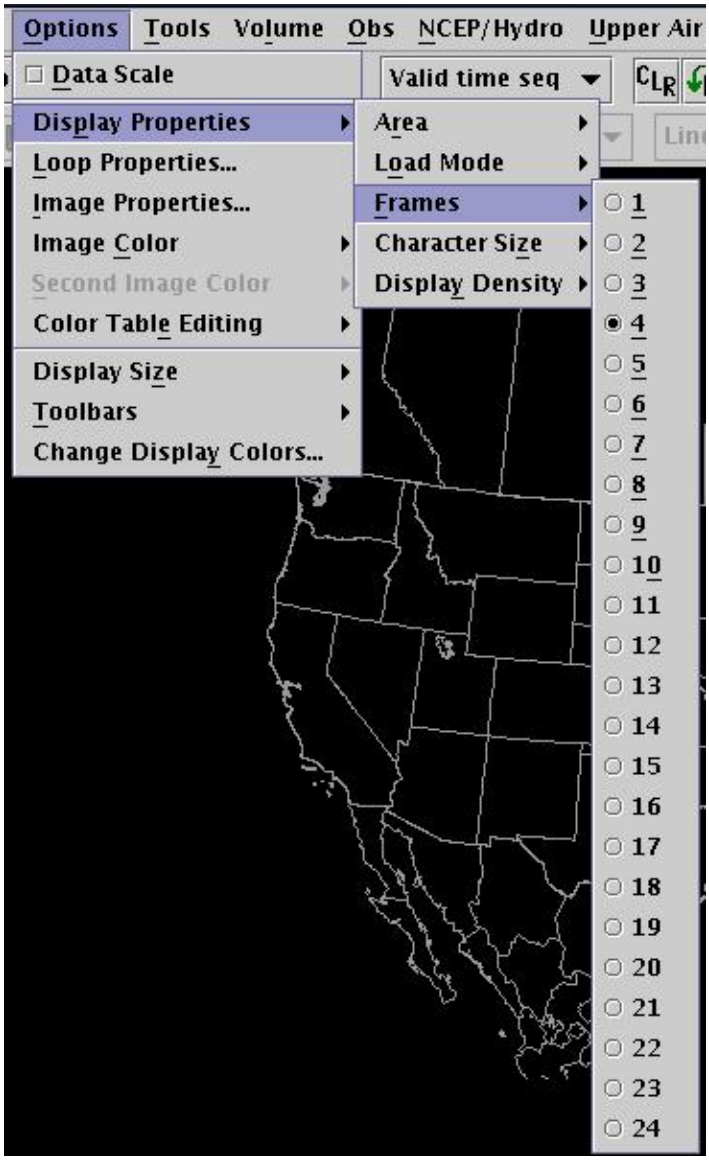


Figure 11. Frames Submenu

- Character Size

  It is possible to modify the size of graphical characters with the Character Size Submenu, shown in Figure12.

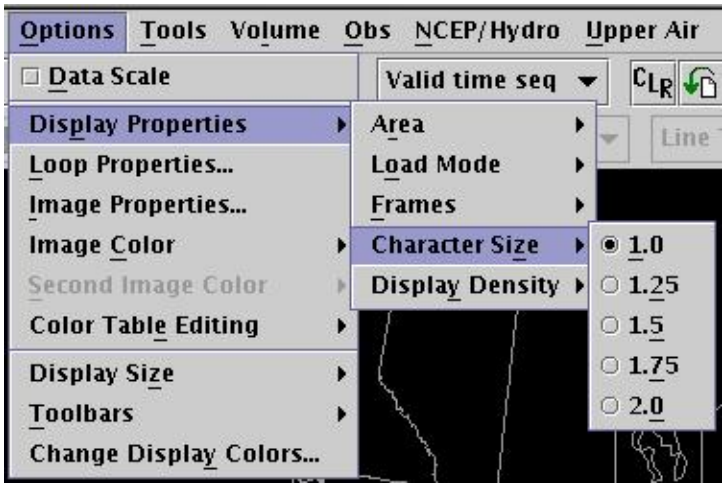


Figure 12. Character Size Submenu

- Display Density...

  The user can specify the amount of data to be shown on the screen by specifying the appropriate density value.

The display density is a relative number and the amount of data displayed is also determined by the window size.

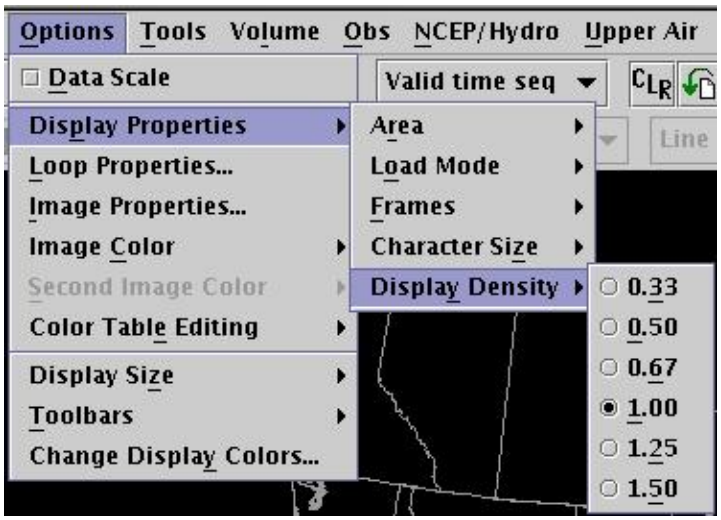


Figure 13. Display Density

- Loop Properties...

  This menu option opens the Loop Properties Dialog Box, shown in Figure14. Within this dialog box are controls for the various features of an animation. You may alter the dwell at the end of a loop, the speed of animation, and the direction (forward or backward) of the animation.

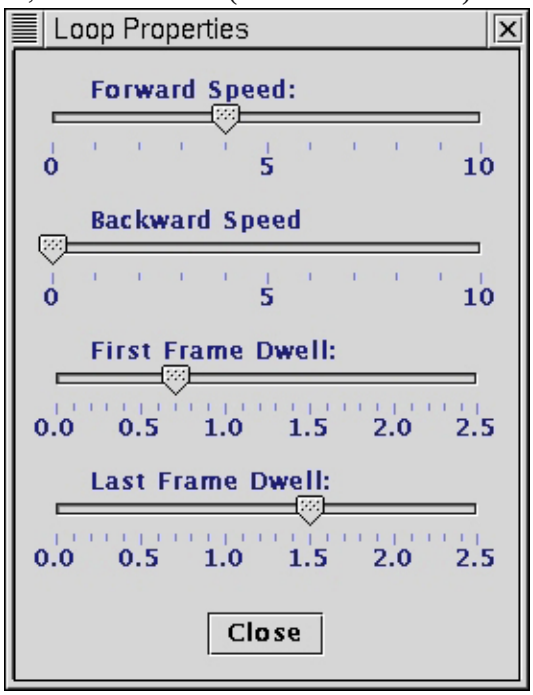


Figure 14. Loop Properties Dialog Box

- Image Properties...

  This menu option opens the Image Properties Dialog Box, depicted in Figure 15. It contains slider bars allowing you to control the opacity of an image. This feature is particularly useful when several overlays are placed on top of an image. By reducing the opacity of the image, the graphic overlays become more discernable. It is also possible to combine two images by enabling the "Combine Images" selector. When enabled, the next image to be loaded will be combined with the current image. Toggling the selector off will resume normal load operation. The "Lock Image Opacity" selector will cause the opacity of the two images to always add to 100%. Thus, if the opacity of one image is reduced, the opacity of the other image will be increased.

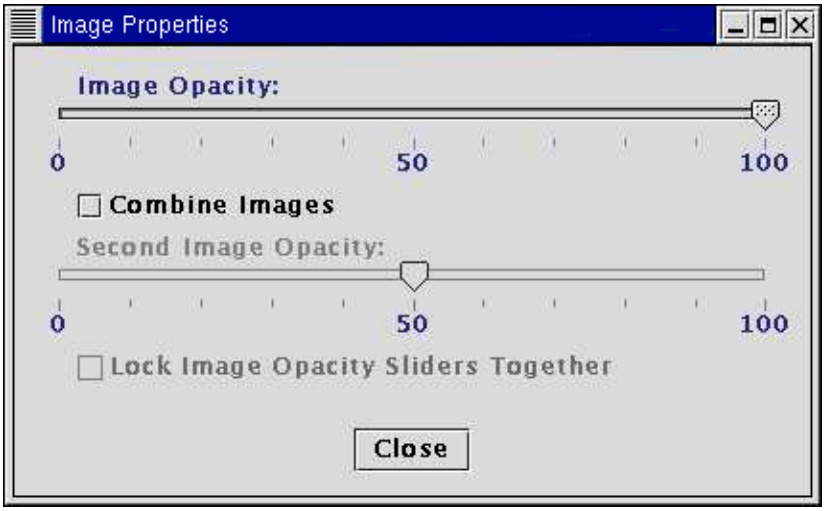


Figure 15. Image Properties Dialog Box

- Image Color

  This submenu, shown in Figure 16, contains a number of pre-defined color tables available for image enhancement. The color table will be applied to the currently displayed image. The user can easily revert to the default image enhancement by selecting the item "Default" from the Color Table Menu.

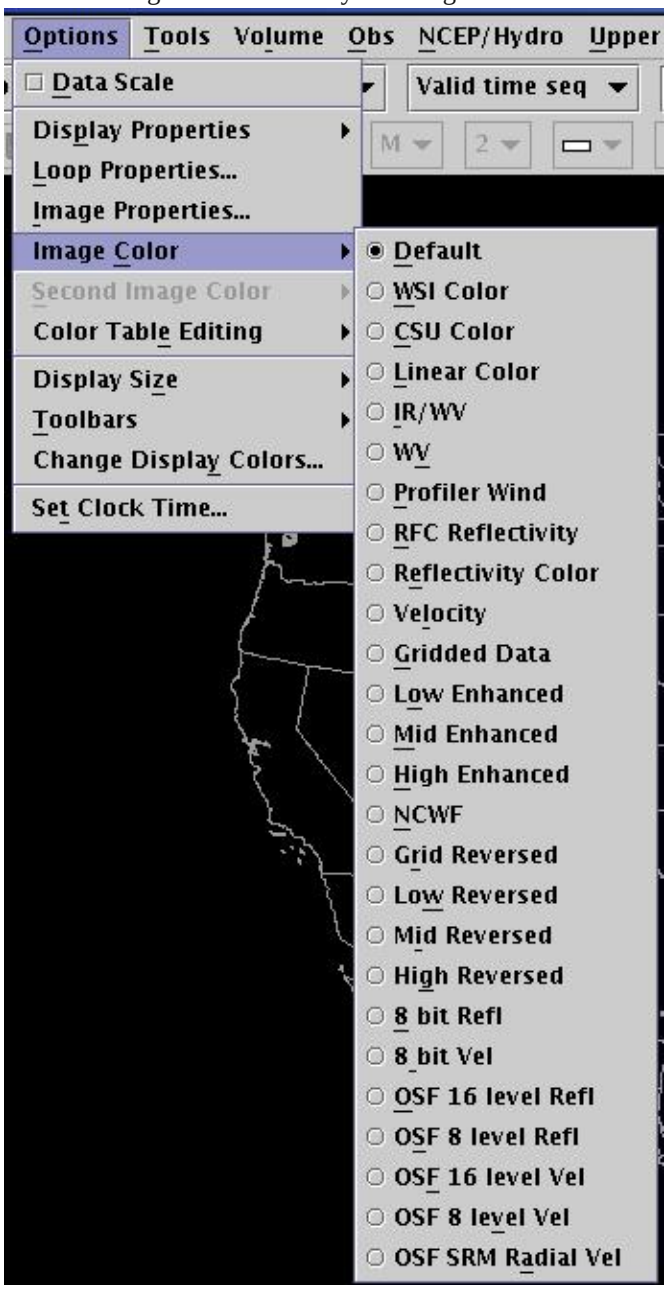


Figure 16. Image Color Submenu

- Color Table Editing

  This menu shown in Figure 17 opens up a submenu that allows the user to create, edit, or delete a custom color table. The custom color table will be saved and the Image Color Submenu will be updated with the name of the new color table. The color tables can be applied to all images (except TIFF, GIF, JPEG and PNG). In order to create a new color table the user needs to select an existing table (one that is perhaps close to the one desired) and modify it.

Figure 17. Table Selector Menu

Figure 18 illustrates what a typical Color Table editing window looks like. The user can select a single color index by either clicking on the color bar or selecting the desired index with the thumbwheel selector. If the user wants to select a range of values then the second index can be selected by depressing the shift button on the keyboard while also depressing the mouse button over the deired location on the color bar. Alternatively, the user can enter the desired index into the second thumbwheel seletor. The user can select a solid fill or linear interpolation between the two indeces by depressing single or linear, respectively. The standard color palette (see Figure 19) will appear and the user can select the desired colors.

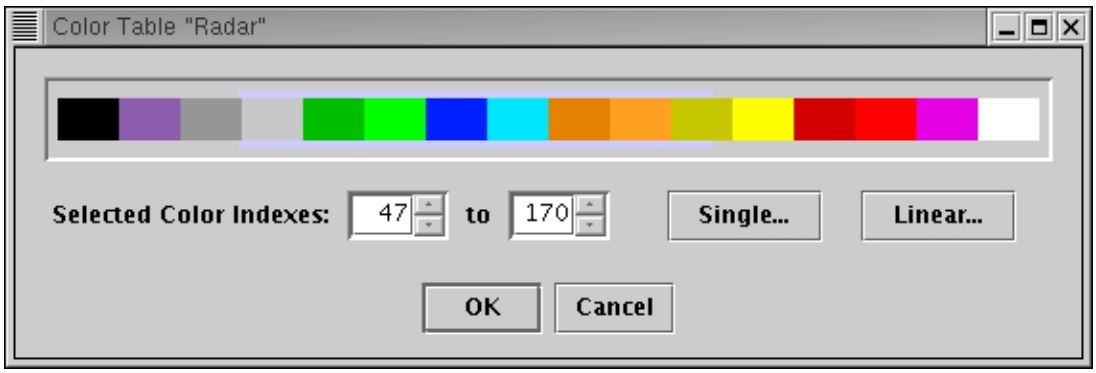


Figure 18. Color Table

Figure 19 shows the standard color menu for selecting background, overlay, and image colors. The user can either select a color from one of the swatches, set the HSB values, or define the color by specifying the RGB components. A color swatch on the menu changes color as you adust the various color components. Once, satisfied with the color the user needs to click on "ok" to save the color setting.

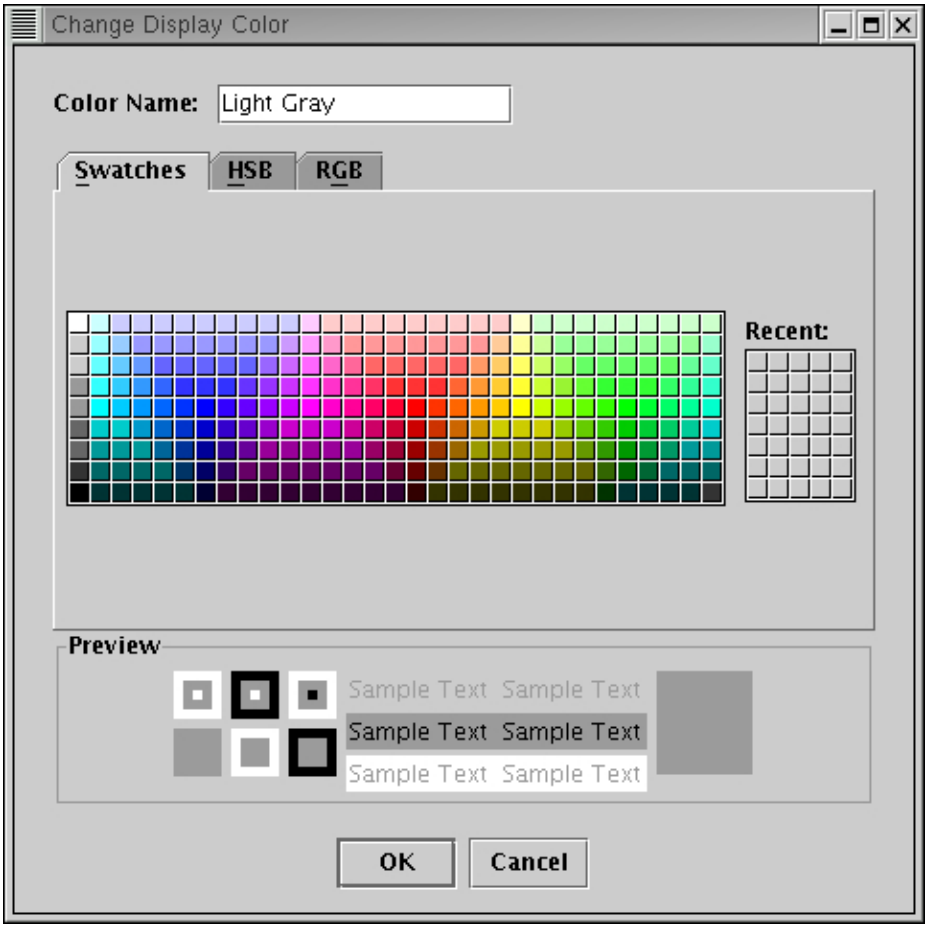


Figure 19. Display Colors

- Display Size

  You can resize a window by either selecting one of the predefined sizes from the Display Size Submenu, shown in Figure 20, or by grabbing the edge of the display and reshaping the window to the desired size. The attributes of a window are saved in a state file to allow the window to reappear in the same location and of the same size the next time the window is opened.

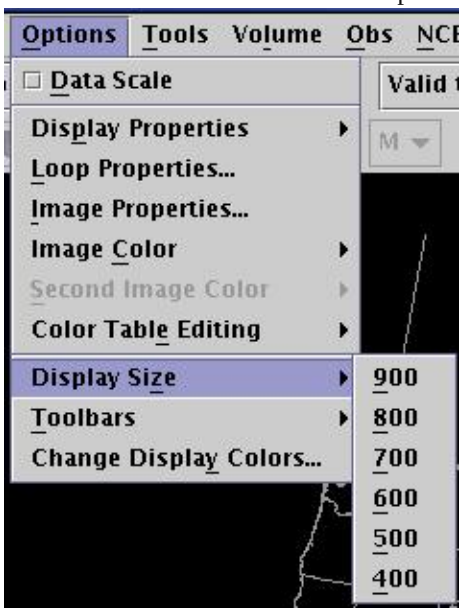


Figure 20. Display Size Submenu

- Toolbars

  FXC has two toolbars; The Main Toolbar contains the basic controls of the display and a second, the Drawing Toolbar, is used in conjunction with the drawing tool. All of the functions in the toolbar are also available from the Main Menu Bar. It is therefore possible to hide the toolbar and still have access to all of the toolbar functions. The Drawing Toolbar is visible when the Drawing Tool is loaded from the Tools Pull-Down Menu, shown in Figure 21, and is made "editable" (by clicking on the "Manual

Product" legend once with the middle mouse button). This is discussed further in the Section 3.1.4, "Tools Menu."

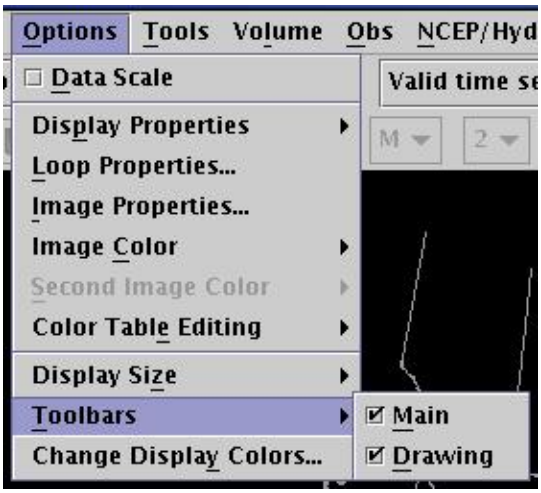


Figure 21. Toolbars Submenu

- Change Display Colors

  This submenu, shown in Figure 22, allows the user to change the default colors for the display window background (typically black) and the graphic overlays. By selecting the desired item and clicking on "change" the standard color palette (see Figure 19) will appear and the user can select the desired color. The default information will be saved in a state file and will be recalled the next time FXC is started. If the user wants to change the color only for a particular graphic on the current display, then the user can right click on the product label and change the color of the graphic. Clearing the screen will then set the color back to the default.

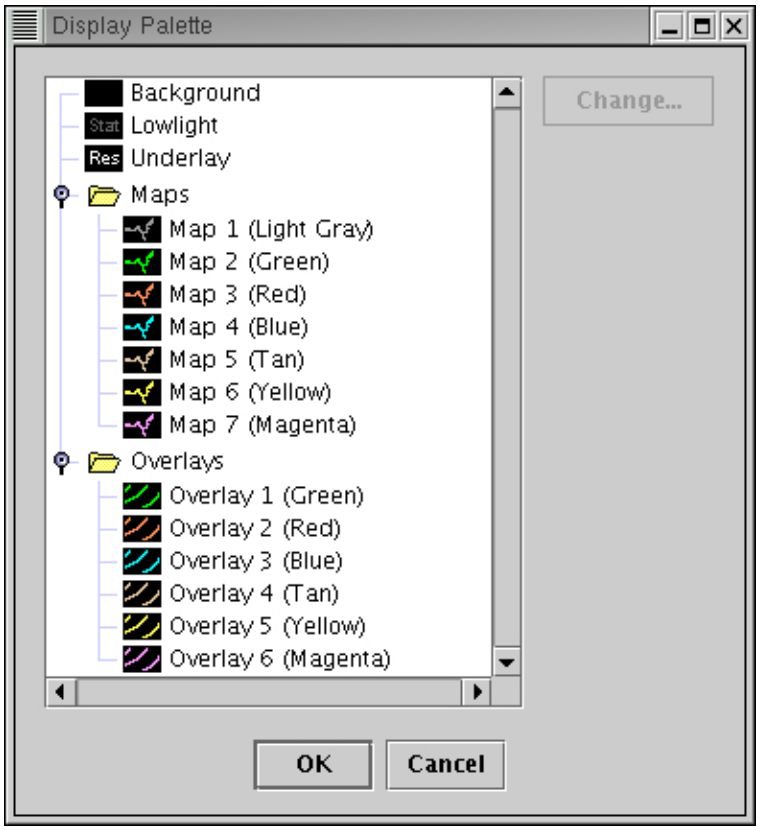


Figure 22. Display Palette

- Set Clock Time

  The "Set Clock Time" menu, shown in Figure 23, allows the user to either select real-time mode or define the desired date and time desired by the user. The date and time specified in the menu will be used to access the meteorological data saved on a disk. The date and time in the menu will be recalled the next time the "Set Clock Time" menu is opened.

Figure 23. Set Clock Time Menu

3.1.4 Tools Menu

The Tools Pull-Down Menu, shown in Figure 24, provides selectors for interactive FXC capabilities. Each tool is described as follows.

Figure 24. Tools Pull-Down Menu

- Baselines

  When selected, a number of interactive baselines appear on the display. If the display is zoomed to a small geographic area, the baselines may not be visible. Unzooming may be necessary to view and move the baselines. Baselines may be arbitrarily placed for the purpose of creating a vertical cross section from model data through the use of the Volume Browser. Note that one end of the baseline line segment is labeled A through J. The resultant vertical cross section will be displayed with the label end of the baseline plotted on the right side of the cross section. In other words, if a west to east cross section is to be created, and the user wishes the cross section to be displayed with west on the left, position the baseline with the letter label on the right side.

  To move a baseline, first note if the product label indicates "editable" mode, i.e., "Interactive Baselines (editable)." If the word "editable" is not visible, click once with the middle mouse button with the cursor on the product label to toggle the baselines to "editable". Now to move a baseline, place the tip of the mouse cursor on the baseline and click once with the left mouse button. The shape of the cursor will change from an arrow to a hand when the baseline is successfully grabbed. Then relocate the cursor to the desired location of the baseline and click once again with the left mouse button.

  To move a vertex of the baseline, click once with the left mouse button with the tip of the arrow cursor on the end of the baseline to be moved. The cursor shape will change to a cross-hair when successfully grabbed. Then click once more in the desired new location for the baseline end point.

  Note: *To move an editable object (baseline, point, manual graphics glyph/symbol), click once to grab the object; then move the mouse to the desired location for the object, and click again to place it there.*

- Points

  Similar to the editable baseline, editable points are used to locate model-derived soundings, time series, or time height model plots. Point A is also used in the Data Scale Load Mode for radar images and for displaying model soundings from the volume browser.

Manipulation of editable points is the same as that for baselines. Make sure the product label indicates "editable", place the tip of the mouse cursor over the point to be moved, and click once with the left mouse button. The shape of the cursor will change from a left-slant arrow to a hand. Move the cursor to the desired location and click once again with the left mouse button.

- Tool-Specific Commands

  This selector becomes active when the drawing tool has been selected. The submenu for this selector replicates the drawing tool functions that are also accessible using the icons in the toolbar.
- Drawing

  This selector invokes a manual graphics capability. A Drawing Toolbar will appear along the top of the FXC Display, below the Menu Bar, and the product label "Manual Graphics (editable)" appears in the lower right corner of the display. More information on the drawing features is presented in Subsection 3.3.
- Text Window

  This selector invokes an AWIPS Text Window, as illustratrated in Figure 25, in which any NWS text product carried on the Satellite Broadcast Network may be displayed. This window may also be used as a "notepad" for creating text. Selectors for easy access to AWIPS Text Products are available under the "Products" Menu. This list may be modified to suit the needs of the local office.

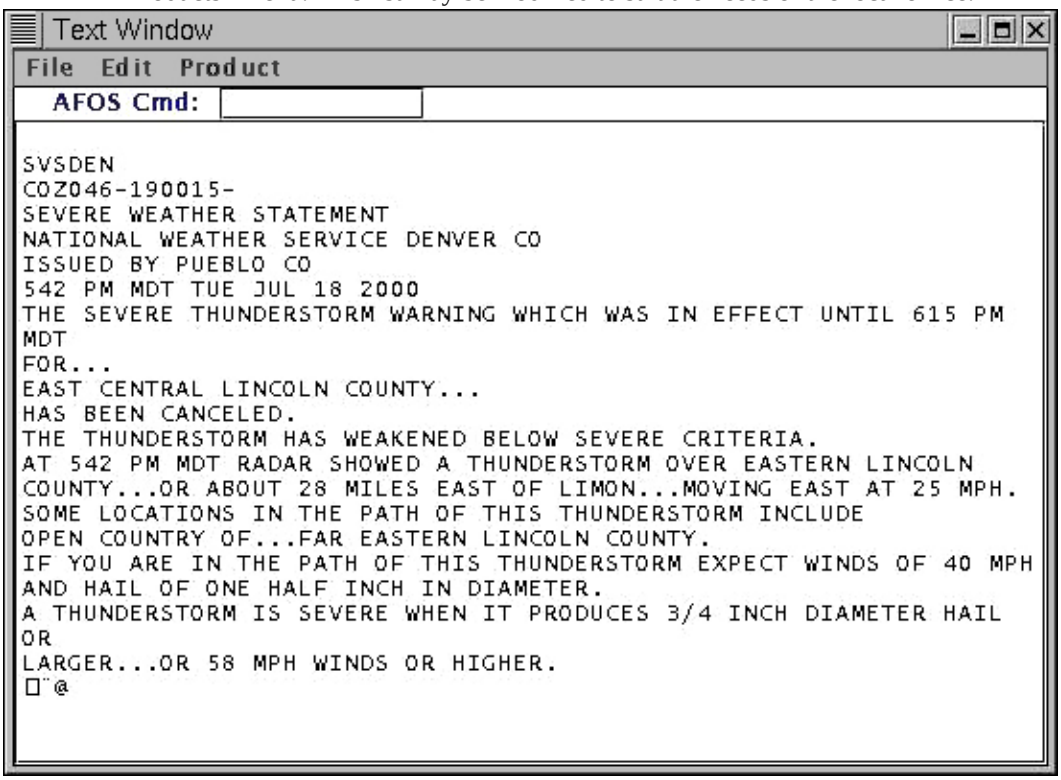


Figure 25. FXC Text Window

- Text Chat

  Select this button to open a "chat room" window. The FXC must be connected to a server and be set to collaborative mode to use this feature. Each collaboration participant will be listed in the Discussion Window, shown in Figure 26.

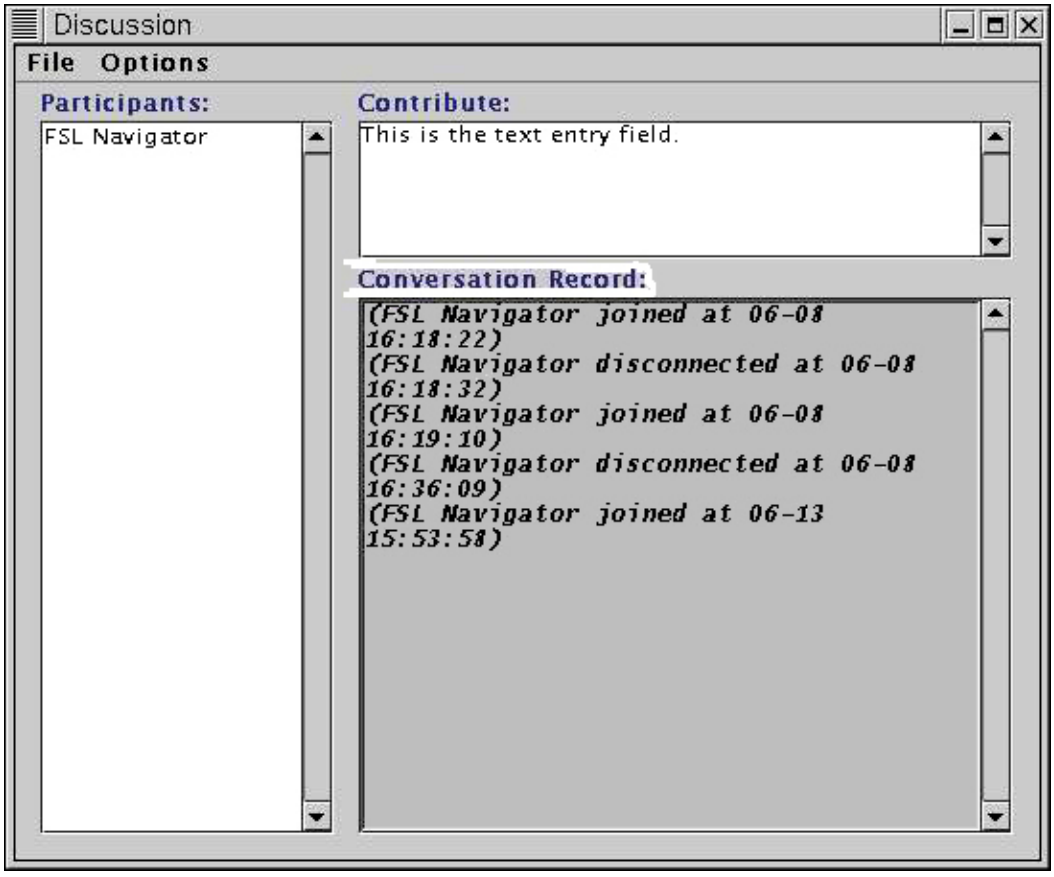


Figure 26. FXC Discussion Window

To the left of the collaborator's name is a small check box that enables an audible alarm whenever a mesage is received from that user (even if the window is hidden from view). The "Option" selector in the Discussion Window Menu Bar opens a menu that allows users to select a word or combination of words that will alert the user whenever that text string occurs in any of the discussion.

3.1.5 Volume Menu

The Volume Pull-Down Menu, shown in Figure 27, provides access to displays of graphics created from model grids.

Figure 27. Volume Pull-Down Menu

- Browser

  This selection opens a window called the Volume Browser (Figure 28) that provides menus from which a vast number of model analysis and forecast fields may be produced. The overall design and functionality is similar to the Volume Browser in AWIPS D2D, with a few exceptions. Selections must be made in order from left to right, first selecting a model or models, then fields, then planes. Displays may be created as graphics or images. Conventional plan view displays, cross sections, time series, time/height sections, and model soundings can be created using selections in the Presentation Pull-Down Menu (Figure 29).

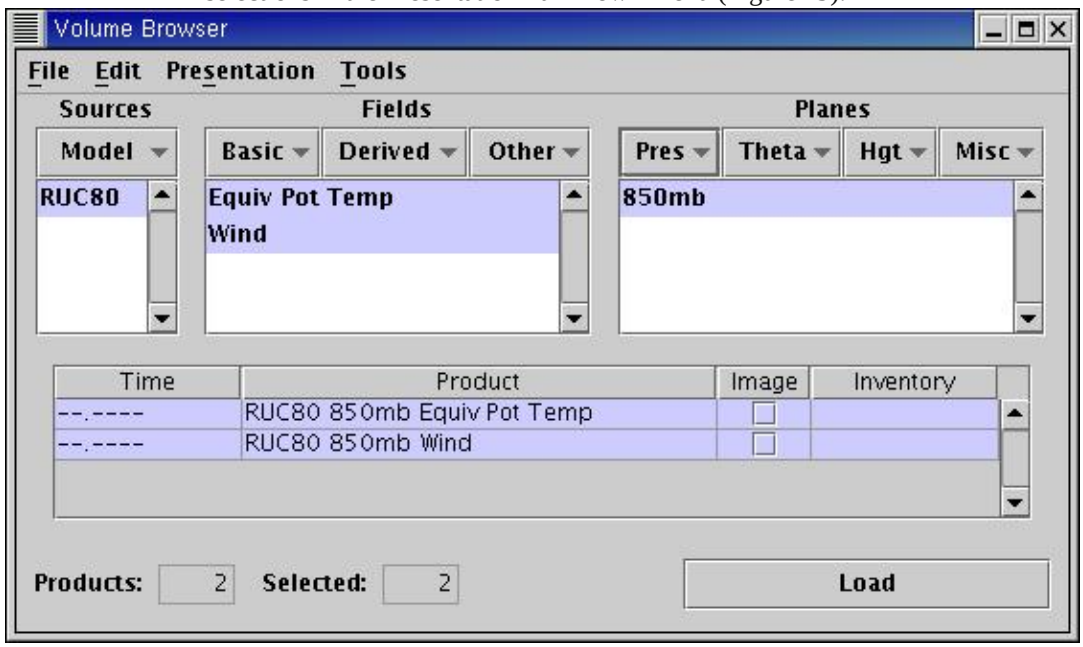


Figure 28. Volume Browser

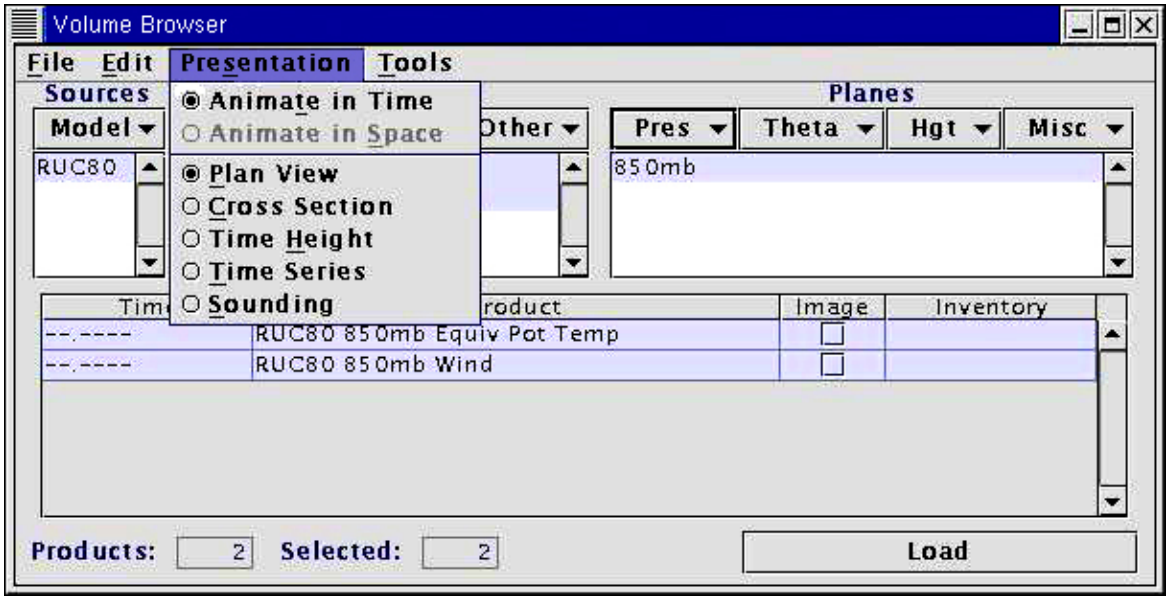


Figure 29. Volume Browser with Presentation Options Menu

- Families

  Choosing either the RUC or ETA family of graphics results in a display of a selection of eight conventional graphics of upper air and surface parameters from the chosen model. The first two graphic overlays are displayed, while the following six are suppressed. To toggle a graphic on or off, simply click once with the left mouse button with the tip of the cursor on the product legend.

- Comparison Families

  Selecting either 500 Height or MSL Press will display a selection of eight graphic overlays from several NWS models. In the case of "500 Height", the display is of the 500 MB height from the

MRF AVN, MesoEta, Eta, NGM, and RUC. "MSL Press" will load the MSL pressure from the same models.

- Surface Families

  This selector will display the surface forecast products for the Meso ETA forecast model.

- Custom Families (JPEG)

  The user can load a family consisting of several JPEG images using the "Family A" or "Family B" selectors in the menu. The images are created by loading the desired images and storing them as An.jpg or Bn.jpg (where n is a number from 1 through 24). This allows users to create several frames of annotated graphics, for example illustrating the motion of a front, and load them with a single selection.

3.1.6 Obs Menu

This pull-down menu and associated submenus provide access to a variety of observational products, including METAR and buoy plot displays, tower plots, and lightning. Depending on the application, this menu may also provide access to certain Web products (GIF,JPEG). Furthermore, it allows users to overlay (single color) a hand drawn local graphic product into one or all frames using the "Local Graphic" selector. Refer to Figure 30.

Figure 30. Obs Pull-Down Menu

3.1.7 NCEP/Hydro Menu

The NCEP/Hydro Pull-Down Menu, shown in Figure 31, contains National Center graphics and analyses.

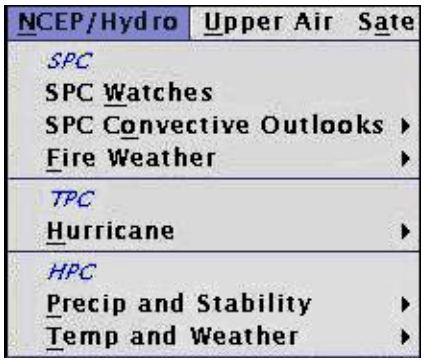


Figure 31. NCEP/Hydro Pull-Down Menu

3.1.8 Upper Air Menu

Mandatory level upper air plots, raobs plotted on a Skew-T diagram, Profiler time/height and plan view

plots, and selected AWC products are available under this menu, as depicted in Figure 32.

Figure 32. Upper Air Menu Pull-Down Menu

3.1.9 Satellite Menu

A selection of GOES images is available under the Satellite Menu, as illustrated in Figure 33. Temporal and spatial resolution of the images is dependent upon the scale at which they are loaded.

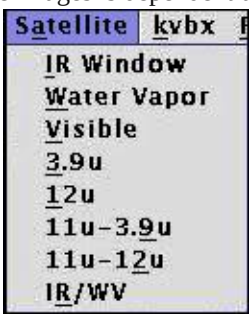


Figure 33. Satellite Pull-Down Menu

3.1.10 Radar Menus

The kvbx Menu and the Radar Menu in Figures 34 and 35, contain selectors for various radar images and products. A national reflectivity mosaic is available, as well as selected base reflectivity and velocity images.

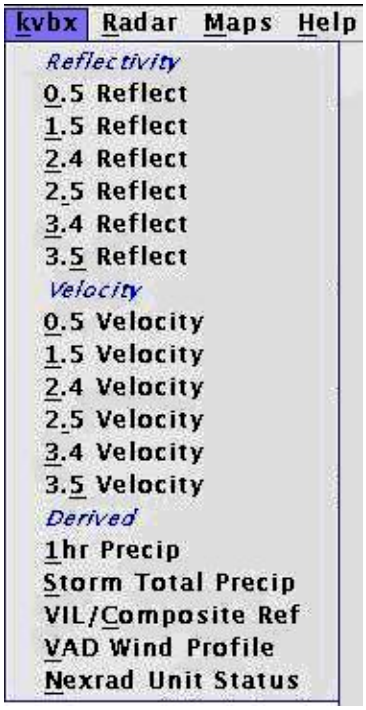


Figure 34. kvbx - Local Doppler Radar Pull-Down Menu

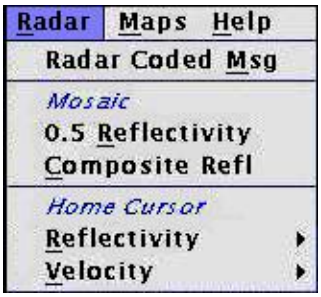


Figure 35. Radar Pull-Down Menu

3.1.11 Maps Menu

This menu, shown in Figure 36, allows the user to access a variety of background maps for FXC Displays.

Figure 36. Maps Pull-Down Menu

A background may be toggled on or off in two ways. Click once with the left mouse button on a map name on the Maps Menu to toggle on or off the selected map display. Map labels may be toggled to display in a like manner. With the map labels visible in the lower right corner of the display ("Show Map Labels" toggled on in the Maps Menu) maps may also be toggled on or off by clicking once with the left mouse button on the map label. The user may also select a color for a map.

3.1.12 Help Menu

The Help Menu contains the About... option which opens the About FXC Window that contains software version and date information. Refer to Figure 37.

Figure 37. Help Menu and About FXC Window

3.2 Main Toolbar

The Main Toolbar, shown in Figure 38, is found just below the Menu Bar and provides shortcuts for many of the Display controls found in the Menu Bar. This toolbar can be hidden from view using the toggle switch just under the File Menu. The function of each selector on the Main Menu Bar is identified with "tool tips". Simply move and dwell the mouse cursor over the desired selector and a "tool tip" will appear identifying the selector.

Figure 38. Main Toolbar

3.2.1 Server

This allows the user to connect to the desired AWIPS Database. The selector identifies the AWIPS "localization" and geographic location of the FXC Server. The user can connect to a server that resides on a remote machine or on the same machine as the client.

3.2.2 Collaborate

(***This feature may be included in a future RSA release.***)

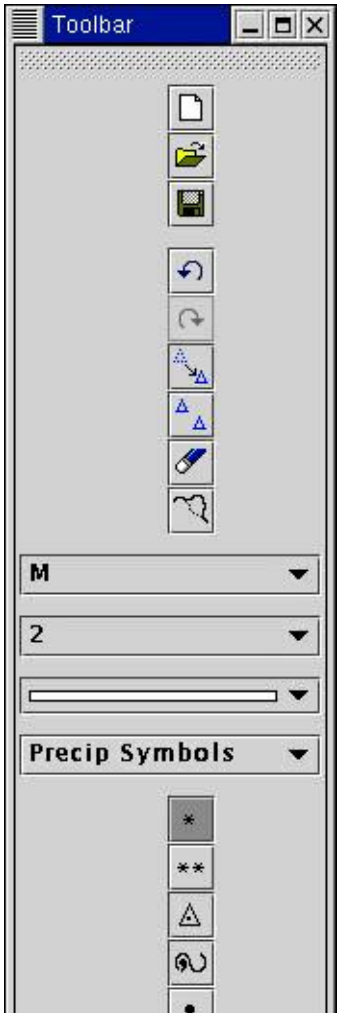
This sets the collaborative mode. All collaboration participants (FXC Clients) must be connected to the same FXC Server to utilize Collaborative Mode. Most of the actions by the user are shared with the remote collaborators. For example, a user can load an image, overlay model data, zoom in on a specific area, and then start an animation and have all of these actions performed on the other FXC Clients who have also enabled collaboration while connected to the same server. A key collaborative feature is the ability to annotate and draw onto any product displayed on the screen. Actions that are not currently shared include changing color enhancements, adjusting image intensity, and overlaying additional map backgrounds. Some of these may be added in the future. Also, with FXC set to Collaborate mode, a "chat room" capability (labeled "Discussion"on the Tools Menu) is available that allows users to exchange textual messages and determine who is participating in the collaboration session.

3.3 Drawing Toolbar

A variety of drawing and annotation capabilities are available on FXC through the Drawing Toolbar. When "Drawing" is selected from the Tools Menu, the Drawing Toolbar initially appears at the top of the FXC Display, just below the Main Toolbar, as shown in Figure 39.

Figure 39. Drawing Toolbar (Shown in the Default Horizontal Layout)

This toolbar may be "torn away" from the Main Toolbar by grabbing the Drawing Toolbar with the cursor at the left edge by depressing and holding the left mouse button. A vertical or horizontal layout is possible by clicking once with the right mouse button with the cursor in a blank gray area between buttons on the toolbar. The choices "Horizontal", "Vertical", and "Rejoin Main Window" will appear for user selection, as shown in Figure 40.



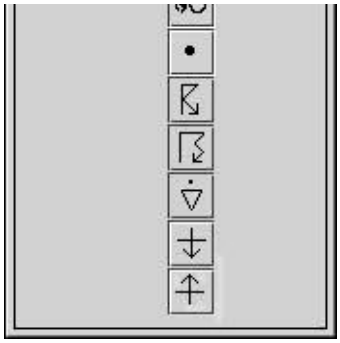


Figure 40. "Vertical" Drawing Toolbar

The selectors on the Drawing Toolbar allow the creation, selection, or saving of files and selectors to create, manipulate, and annotate manual graphics. Pausing the mouse cursor over the buttons on the toolbar will reveal tool tips describing the function of each button.

3.3.1 New Drawing

This selection erases the drawn objects and leaves all of the graphic overlays and underlay in tact. This is unlike a Clear that erases the overlays, underlay, and removes the drawing tool.

3.3.2 Open Drawing

This selection retrieves the object file containing the drawing and displays it on the screen.

3.3.3 Save Drawing

A drawing is always saved in two different formats: a graphic metafile and an object file. The object file is retrieved by selecting Open Drawing for additional editing, and the metafile is retrieved as a single color graphics by selecting Manual Graphic from the Surface Menu.

3.3.4 Undo

(16 steps)

3.3.5 Redo

(16 steps)

With the following manipulations, first select the function with a click of the left mouse button; then click on the object that is to be manipulated and click again on the final desired location (if appropriate) for the object.

3.3.6 Move Glyph

3.3.7 Copy Glyph

3.3.8 Erase Glyph

3.3.9 Edit Freehand Path

To change the end piece of a line, click on the line near the desired location, draw the new line from that

location and click again to terminate the line. To modify a piece of a line, click on the line near the desired location, draw the new line and click when the new line touches the old line.

The remaining selectors reveal pull-down menus for additional controls for manual graphics.

3.3.10 Glyph Size 

Make the glyph (symbol or icon) Small, Medium, or Large

3.3.11 Line Thickness 

There are four thickness options available.

3.3.12 Line or Glyph Color 

A pallet of eight colors is available.

3.3.13 Line Types

The "cloud" line type may be drawn as Right or Left orientation.

- Solid Straight Line 
- Dashed Straight Line 
- Straight Arrow 
- Freehand 
- Dashed Freehand 
- Arrow Freehand 
- Scalloped 

3.3.14 Front Types

Front types may be drawn as Right or Left orientation. The default is specified by the pull-down menu to the right of the symbols. "Right" means that the annotations will be to the right of the line as you are drawing it. The orientation can be changed after the line is drawn by clicking on the line with the right mouse button and selecting the desired "Decoration Side.." from the pop-up menu.

- Surface Cold Front 
- Aloft Cold Front 
- Surface Warm Front 
- Aloft Warm Front 
- Surface Stationary Front 
- Aloft Stationary Front 
- Occluded Front 
- Dry Line 

3.3.15 Shape Types

Select this option to draw shapes. When drawing shapes, an additional pull-down menu appears on the toolbar to define the default characteristics of the shape, create shapes with or without borders, and drawn as Hollow, Transparent, Translucent, Semi-opaque, and Opaque.

- Polygon 
  Use the left mouse button to select vertices of the polygon, then use the right mouse button to close the shape.
- Freehand Polygon 
  Click once with the left mouse button to begin drawing the freehand shape. Then click a second time with the right mouse button to close the shape.

3.3.16 Precip Symbols

- Light Intermittent Snow 
- Light Continuous Snow 
- Ice Pellets 
- Freezing Drizzle 
- Rain 
- Thunderstorm 
- Severe Thunderstorm 
- Rain Shower 
- Blowing Snow 
- Blizzard 

3.3.17 Aviation Symbols

- Turbulence 
- Severe Turbulence 
- Icing 
- Severe Icing 
- Light Fog 
- Fog 
- Haze 
- Smoke 
- Blowing Sand 
- Blowing Dust 

3.3.18 Cloud Cover

- Clear Sky 
- Scattered Clouds 
- Broken Overcast 
- Overcast 

3.3.19 Combo Symbols

- Rain/Drizzle 
- Moderate/Heavy Rain 

3.3.20 Other Symbols

- Low Pressure 
- High Pressure 
- Generic Marker 
- Dust 
- Tropical Storm 
- Wind Barb 

  Click once with the left mouse button at the desired location of the wind barb. A Wind Speed selector appears to set the desired speed. Select speed, then select "OK". The wind barb of selected speed appears adjustable to direction. Place the cursor to indicate the desired wind direction then click once again with the left mouse button.

  The speed and direction of the wind barb can be changed after it has been drawn. To change the speed click on the wind barb with the right mouse button and select "speed" from the pop-up menu. To change the orientation of the wind barb select the "Move Glyph" from the drawing tool bar and click on the end of the wind barb with the left mouse button. Rotate the wind barb to the desired direction and click the left mouse button a second time. To change the location of the wind barb follow the same basic procedure except click on the shaft of the wind barb.

3.3.21 Text

- Annotate 

  Click once with the left mouse button at the desired location of the annotation, then a dialog box appears for entering the annotation text. Enter desired text, then click "OK".
- Point Size 
- Bold Face 
- Italics 

3.4 Drawing Tool Practice Module

One of the powerful features of the system is its ability to annotate a display with graphics or text using the Drawing Tool. The objective of this module is to introduce you to some of the basic drawing capabilities.

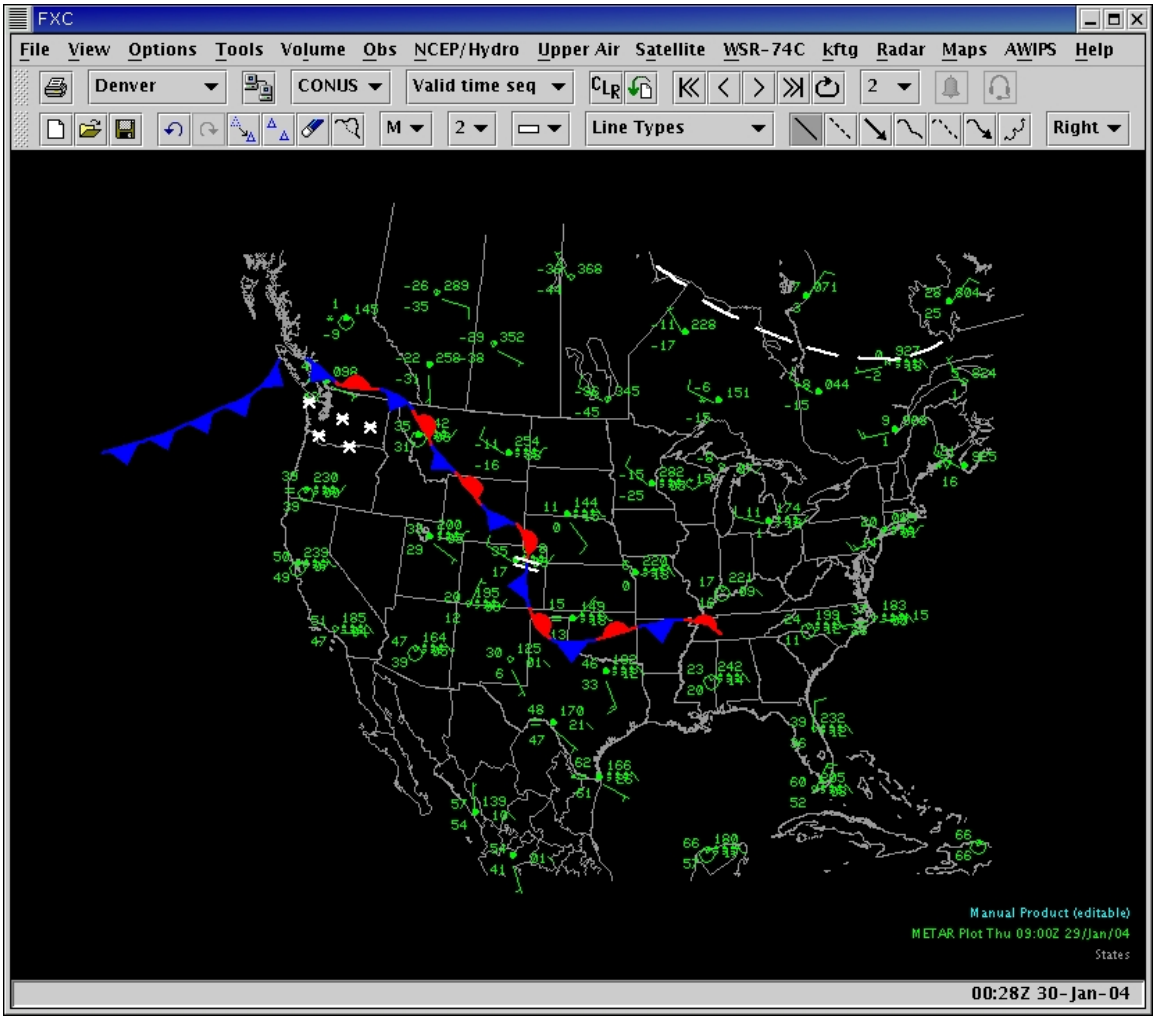


Figure 41. Sample Drawing

Steps:

1. From the **Main FXC Toolbar**, clear the **FXC Display Window**.
2. From the **Area Options Menu**, select **CONUS**.
3. From the **Tools Pull-Down Menu**, select the **Drawing** option (or depress CTL-D). The **Drawing Toolbar** automatically appears, and contains many useful features for drawing lines, fronts, symbols, etc. Once this toolbar is active, the functionality of **Mouse Button 1** changes to accomodate the drawing and editing of the drawing features.
4. From the **Drawing Toolbar**, open the **Glyph Choices Options Menu (label changes to reflect type of glyphs)** and select **Line Types Types**. Notice the icons to the right change to reflect several line types. Click on the **Straight Line Icon**.
5. Down in the **FXC Display Window**, click **Mouse Button 1** somewhere on the display and notice the cursor becomes a pencil, and that one end of your line is anchored in the location where you clicked. Now move the mouse to another place and click again to anchor the other end point of your line.
6. In the **Drawing Toolbar**, open the **Color Options Menu (colored line)** and select a different color, say red.
7. Now click on a different **Line Type**, like the **Dotted Freehand Icon**. Repeat Step 5.
8. Under the **Glyph Choices Options Menu**, choose **Precipitation Symbols**. Notice how the icons change in the Drawing Toolbar. Click on the **Freezing Drizzle Icon**.
9. Again, open the **Color Options Menu** and select a the blue color.
10. In the **Glyph Size Options Menu (single letter button)**, select **L** (large).
11. Down in the **Display Window**, click anywhere to place **freezing drizzle symbols**.
12. Try using the **Undo**, **Redo**, **Move Glyph**, and **Copy Glyph Icons**.
13. Experiment with other **Glyph Choices** to familiarize yourself with the various features and options.
14. From the **Main Toolbar**, clear the **FXC Display Window**.
15. From the **Surface Pull-Down Menu**, select **Station Plot**.
16. From the **Tools Pull-Down Menu**, select the **Drawing** option. (When we cleared the Display in Step 14,

the Drawing Tool was deactivated, so we are turning it back on.)

17. From the **Drawing Toolbar**, select **New Page** (the left-most icon depicting a blank sheet of white paper) to erase any glyphs left on the screen.
18. From the **Drawing Toolbar**, open the **Glyph Choices Options Menu** and select **Front Types**. Try to draw the various fronts that match the displayed data by clicking on the different front icons.
19. Once you have annotated an image, you can save it as a slide in a Slide Show, as discussed in Section 5.

3.5 Using the Manual Graphics

Some adjustments may be made to elements of a manual graphic after they have been drawn by selecting the desired element, placing the tip of the mouse cursor on the element (glyph, annotation, line, etc.), and clicking once with the right mouse button. A pop-up menu will present options for changing the element, as shown in Figure 42.

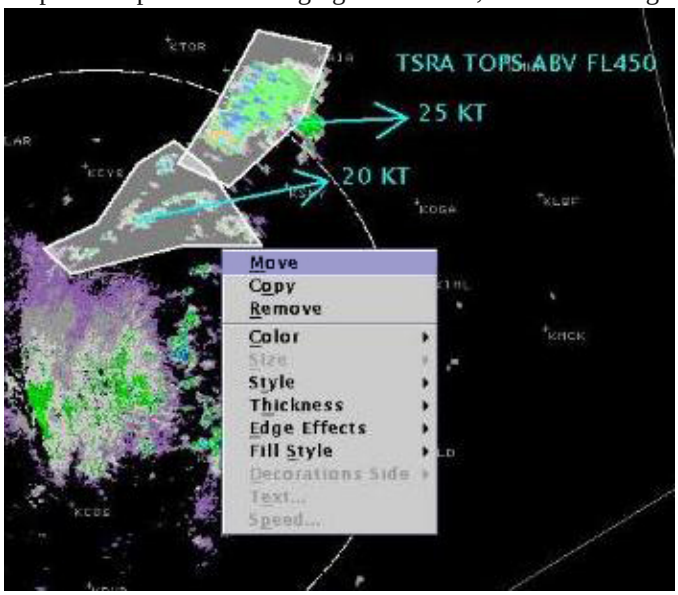


Figure 42. Pop-Up Options Menu for Manual Graphics

4. Weather Briefings

There are several tools available to help forecasters prepare and present weather briefings. The most commonly used tools are procedures and slide shows. Procedures allow forecasters to set up a sequence of forecast products that can be displayed in sequential or random order during a weather briefing. Once a procedure is set up, it can be used over and over again at different days to display the current data for that day. Forecasters can also display additional data (including graphical annotation) that is not part of the procedure without exiting the procedure.

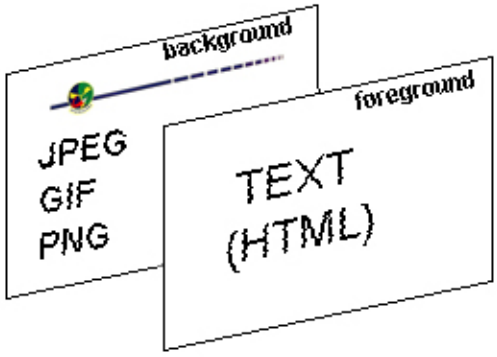


Figure 43. Briefing Slide Components

Another commonly used tools is a slide show that allows the forecaster to create a series of slides that can include AWIPS Displays, special purpose text slides and weather products downloaded from an internet server. Figure 43 illustrates the components of a briefing slide. The background image can be any JPEG, GIF, PNG, or even the current FXC display. The text component is an html overlay. Slide shows are created on FXC and are custom made for each weather briefing. They are played back using the FXC slide show capability.

4.1 Using the Slide Show Functions

The slide show user interface is designed to allow users to create individual slides and assemble them into a slide show. It is envisioned that the user would create these slide shows prior to a presentation and then play them back for the actual presentation. Individual slides can be created from data displayed on the screen (e.g. a radar loop with lightning data), images loaded from local disk or Web, or html text template files. The slide shows can be easily modified to change the contents of a slide or to add or delete slides. A special Dialog Menu is provided to create, modify, and display slides in a slide show.

4.1.1 The Slide Show Dialog Box

The Slide Show Dialog Box is arranged so that you can move from top to bottom to create each slide in your slide show. Refer to Figure 44.

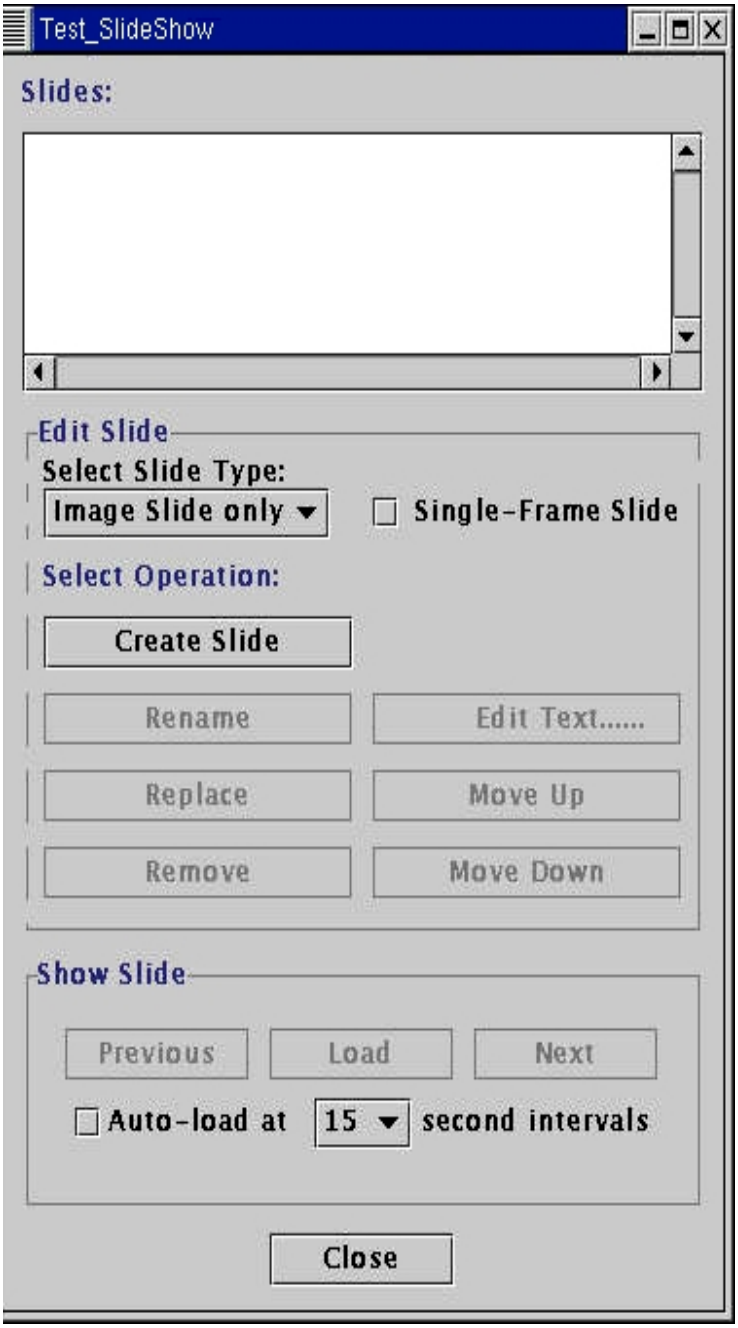


Figure 44. Slide Show Dialog Box

- Slide Creation

  In order to create a slide, the user must first select New Slide Show or Open Slide Show from the File Pull-down Menu and either give the slide show a name or select an existing one. This brings up the Slide Show Dialog Box that enables the creation and modification of a slide. The white area at the the top of the dialog box contains a list of all of the existing slides (i.e Bundles). This area will be blank if a new slide show is being created.

  - **Slides** - This portion of the Slide Show Dialog Box lists the existing slides. When you initially open a new slide show, this portion is empty.
  - **Edit Slide** - In this portion of the dialog box, you can define the type of slide you want to create, and modify existing slides
  - **Select Slide Type** - As shown in Figure 45, you can choose the type of slide you want to create from the Select Slide Type Options Menu.
  -

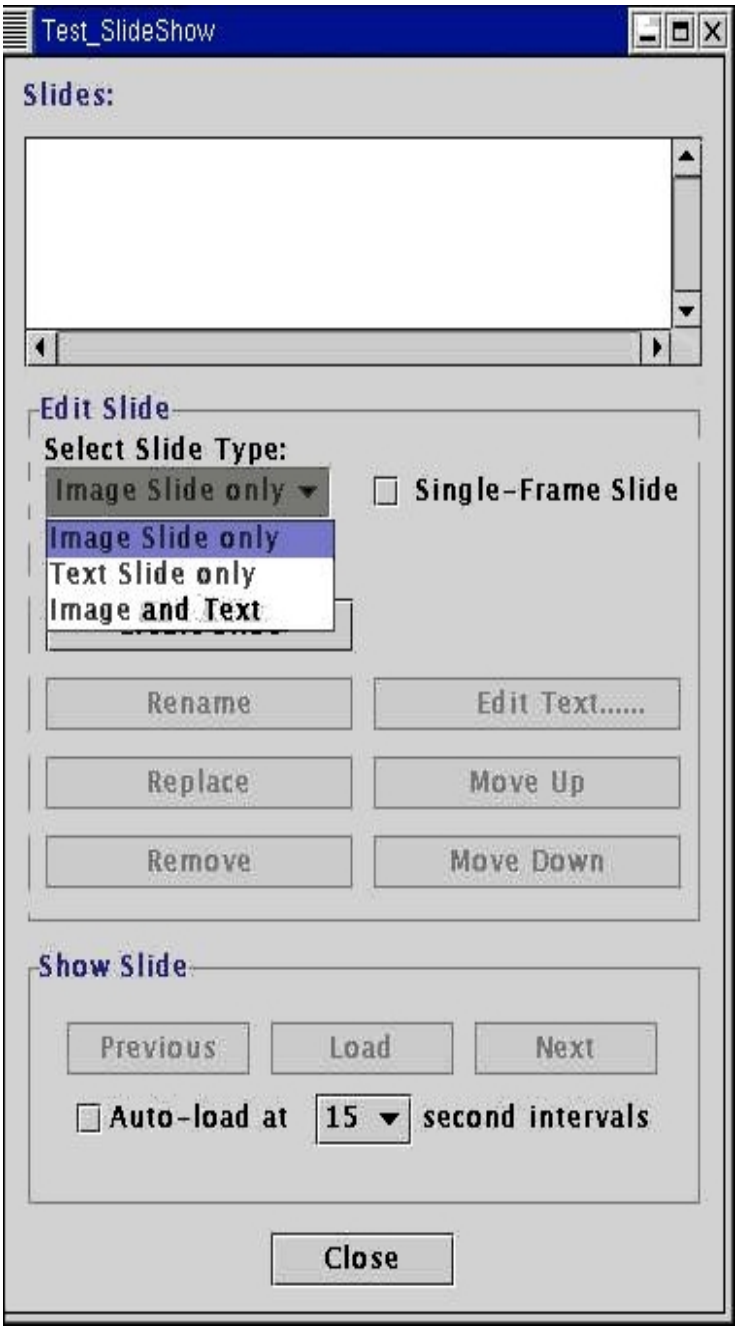


Figure 45. Select Slide Type Dialog Box

- Slide Types You Can Create

  There are three types of slides that can be created:

  1. **Image Slide Only** - An image-only slide creates a JPEG image slide of whatever is displayed on the FXC Screen. This could be anything "captured" from D2D, generated on the FXC Display, or an image or background file that you obtain via the GIF/JPEG/PNG Background option from the File Pull-Down Menu. Simply display the data on either D2D or FXC and click on the Create Slide Menu Button.
  2. **Text Slide Only** - Text-only slides contain only textual or tabular information that is generated from pre-existing html template files. Once you choose this option, click on the Create Slide Menu Button. The Template Dialog Box will appear and guide you through directories and files of pre-made text templates. Once you choose a template file, click on the Edit Text... Menu Button to modify the text or font size or color. Refer to Subsection 4.1.1 for more information on how to create custom template files.
  3. **Image and Text** - This option allows you to create a slide containing both a background image file and an html text template. For example, you could use a logo file for your image with textual information overlaid on top. Or you could have an image of satellite data and overlay text information.

- Single-Frame Slide

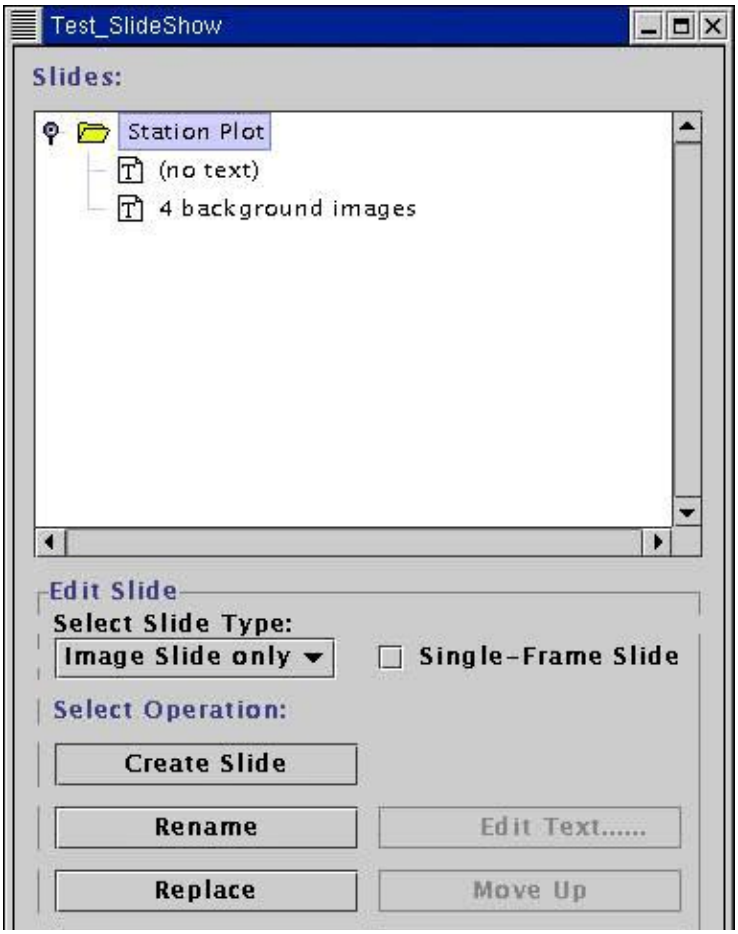
  This radio button option allows you to capture only one frame of a multi-frame loop of data. For example, if you load 12 frames of the ETA model family, but you only want to capture the 36-hour forecast, just step to that frame and then click on the Create Slide Menu Button.

- Select Operations

  Within this portion of the Slide Show Dialog Box are the control operations for manipulating the slides and the slide order.

  Create Slide- When you choose this option, the contents of the screen will be converted to a JPEG image and stored. If you are creating a text slide, a listing of html templates will appear. Once you choose an html template file, the template will automatically be added to the slide show. To create a slide that contains an image background and text, first load the image background and then select Create Slide. This causes the Template Dialog Box to be displayed. After selecting a template, the background and text template will automatically be saved as a slide.

  Slide Modification - Each slide can consist of two components, a background image and a text overlay. To edit either one, first select the little lever symbol, as shown in Figure 46, to the left of the slide to be modified and then click on the component of the slide that is to be changed.



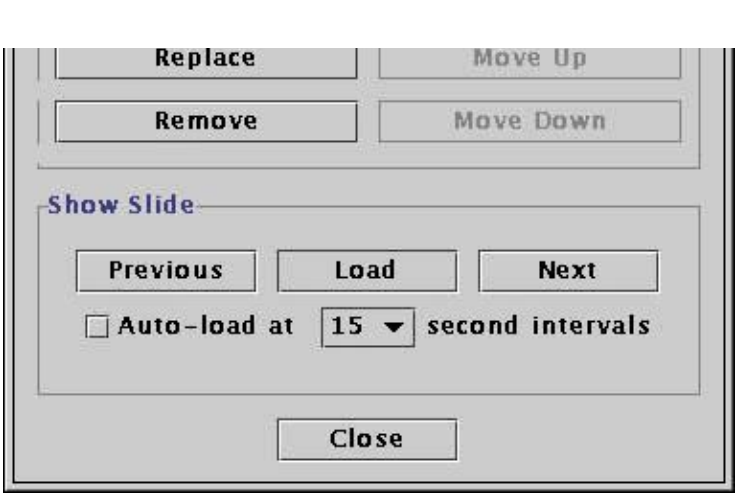


Figure 46. Editing a Slide

Rename- A slide can also be renamed to give it a more descriptive name by selecting this menu button and entering the desired name.

Replace - To replace the background image, first load the new background and then select the Replace Menu Button. This will replace the background (only) for that slide.

Remove - To delete a slide, select the desired slide and click on the Remove Menu Button.

Edit Text... - If the text is to be edited highlight the Text Overlay portion of the slide. This will cause the "Edit Text" selector to be highlighted which brings up a dialog box with all editable fields for that slide.

Move Up/Move Down - To rearrange the order of the slides in your slide show, use the Move Up/ Move Down Menu Buttons.

Show Slide- To view slides in a slide show during a weather briefing or presentation, double-click on the the starting bundle of the desired slide show, and then bring the main window to the foreground by clicking on the window frame. Press on the Load Menu Button to display the highlight slide, and use the Previous and Next Menu Buttons to manually go backward and forward through the slide show. If you want to advance through the slides automatically, the user can specify the time delay between slides and enable the Auto-Load feature.

4.1.2 Creating Custom Templates (Advanced Feature)

In designing the Briefing Tool, it was assumed that the creation of slide templates are an infrequent task and that generic templates can be generated that will meet the majority of needs. As a result, the creation of templates is considered an advanced feature and is not imbedded directly in the Briefing Tool.

The Briefing Tool templates are in HTML format. Several HTML editors, such as Netscape Composer & Word Perfect exist that simplify the creation of HTML files. The following markers can be added when generating the text page. Currently, the briefing tool can not display an image or other link that is imbedded in the HTML file.

The @@ symbol sequence is used to inform the Briefing Tool that it needs to parse the subsequent text for special instructions. A second occurrence of @@ terminates the text that is to be parsed. These fields will be displayed when selecting "Edit Text..." in the slide show menu. The following modifiable fields are supported by the Briefing Tool.

1. Simple text field:

   @@ text text text @@
   Example: @@Enter wind speed@@
   Example: Temperature:@@55 deg@@
2. Text field with color options (the first color is the default color)

@@ |color1|color2|color3=text text text@@
Example: @@|black|white=Hello World@@

3. Text field with color options (where the text is the name of the color)

   @@text text text~color1|color2=color1@@
   Example: @@Lightning~green|red=green@@
4. Text Matrices

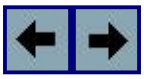
   @@any valid exp@@ @@_any valid exp@@ (Note the "_" to continue a row)

   Example(3 rows x 2 columns):
   Rule 1@@Now~green|red=green@@@@_T0~green|red=green@@
   Rule 2@@Now~green|red=green@@@@_T0~green|red=green@@
   Rule 3@@Now~green|red=green@@@@_T0~green|red=green@@

The template files are stored in FXC\fsl\data\templates\---Range\--- . These files are a permanent reference and stay unchanged when the user modifies their contents. Users can add their own subdirectories and/or html templates for their specific application.

4.2 Using the Procedure Functions

Procedures are created and modified in a very similar manner to slide shows. A major difference is that procedure bundles consist of only one component (graphic product) and therefore are simpler to modify. Also, procedures always load the most current data from the server instead of predefined slides. The data can include Web (URL) and local images. The auto-load capability can be used to continuously sequence through the bundles of a procedure. Each time a bundle is loaded, the most current data will be displayed. Like slide bundles, procedure bundles can also include frame animations.



5. Practice Modules for FXC

These five modules are written to highlight some of the features of FXC and represent only a small portion of the total capabilities.

NOTE: *Be sure to use the Mouse Tooltip feature to identify menus and icons within the toolbars. Simply move the Mouse Cursor over an icon or options menu and wait for an identifying purple tag to appear. FXC Client must be connected to a server for real-time data access.*

5.1 Module 1 - Objective: Creating a New Slide Show and an Image Slide

Steps

1. From the **File Pull-Down Menu** in the Menu Bar, select **New Slide Show**. This should bring up a dialog box that prompts you for a name for the slide show. After entering the name, the large Slide Show Dialog Box will appear with no slides listed in the white area of the dialog box. Also, note that the words "Slide Show" have been added in the top border of the main window.
2. Now, from the **Satellite Pull-Down Menu** in the FXC, load **4 frames of IR Satellite data on the CONUS scale**. These data will be used to create your first slide.
3. Back in the **Slide Show Dialog Box**, open the **Select Slide Type Options Menu** and choose **"Image Slide Only."**
4. Ensure that the **Single-Frame Slide Button** is disabled.
5. Press the **Create Slide Menu Button** and observe that the **"IR Window"** slide appears in your Slide Show List.
6. Click on the **lever icon** next to the IR Window slide and note that there is no text for this slide and there are 4

background images.
7. Clear the **IR Satellite image** from the FXC Display.
8. Keep the Slide Show open for Objective 2. Please note that your slide show is saved with each action, so the slide show you are generating won't be lost.

5.2 Module 2 - Objective: Creating a Text Slide

Now that you have created an image-only slide, let's add a text-only slide to your slide show. The text will be generated from predefined text templates.

Steps

1. In the **Slide Show Dialog Box**, open the **Select Slide Type Options Menu** and choose **"Text Slide Only."**
2. Press the **Create Slide Menu Button**. Immediately a dialog box appears from which you can choose a text template. From the **EasternRange file**, select the **Airmass.html** file and depress the **Open button.**. Observe that the textual information appears in the FXC Display. Note also that a new **"Airmass"** slide is in your Slide Show.
3. Click on the **lever icon** next to the Airmass slide and note that there is a Text Overlay and no background images for this slide.
4. Clear the Airmass text information from the FXC Display.
5. Keep the Slide Show open for Objective 3.

5.3 Module 3 - Objective: Adding a Background to the Text Slide

A limited set of predefined backgrounds, such as logos and solid colors, are available. Any jpg, png, or gif image is a candidate for the background. Additionally, any meteorological data currently displayed on the screen can be used for the slide background..

Steps

- Any **Slide Type Option** is a valid choice. No special selection is required.
- Highlight the "**No Background Image"** by selecting the background component of your **Airmass** slide.
- From the **Briefing Tool Menubar** select File and then **GIF/JPG/PNG Background**
- This will pop open a new **File Selection Menu**. Select **ER_logoBar.jpg** and depress the **Open Button.**
- The Eastern Range logo will appear on the screen. Click on the **Replace Button** on the **Slide Show Menu.** The image name will replace "No Background Image" and the combined text and background will be displayed on the screen.
- Keep this Slide Show open for Objective 4.

5.4 Module 4 - Objective: Creating a Combined Image and Text Slide (Alternate Approach)

This module describes an alternate approach to creating a text slide with an image background. For the background, you may use the image on the screen or a colored background of your choice, as long as it is in jpg, png, or gif format.

Steps

1. In the **Slide Show Dialog Box**, open the **Select Slide Type Options Menu** and choose **"Image and Text."**

Important!
The desired image must be loaded before clicking on the "Create Slide" button. Whatever is displayed on the screen, be it a Satellite image or another text slide, will become the background for the new slide. If a text slide is currently displayed, it will become the background for the new slide.

2. From the **FXC File Pull-Down Menu**, select the **GIF/JPEG/PNG Background** option. Immediately a dialog box opens from which you can choose from an assortment of pregenerated image files. For this example, please select the **WR_logoBar.jpg** file. The image will appear in the FXC Display.
3. Press the **Create Slide Menu Button**. This brings up the Text Template Files Menu. For this example, please choose

delay.html. Note how the textual information is overlayed onto the logo bar image.

4. If you would like to change the name of the slide click on the **Rename Menu Button** to open the **Rename Slide Dialog Box** Type in **"24-hr Delay"** for this third slide.
5. Click on the **lever icon** next to the **24-hr Delay** slide and note that there is a Text Overlay and one background image for this slide.
6. Keep the Slide Show open for Objective 5.

5.5 Module 5 - Objective: Editing Text Within a Slide

In most cases, the text templates will need to be modified to your current launch weather scenario. This is easily accomplished as the following steps will show.

Steps

1. In **24-hr Delay Slide**, click on the **Text Overlay**. The **Edit Text... Menu Button** becomes active.
2. Click on the **Edit Text... Menu Button**. Immediately the **Change Contents of Fields Dialog Box** opens, containing the predefined fields of the 24-Hour Delay Template. Use the **Tab** Key on your keyboard to navigate through the various fields. Feel free to modify several fields.
3. When you are finished editing the fields, press the **OK Menu Button**, and note the changes automatically reload in the FXC Display.
4. Using the **Move Up** and **Move Down Menu Buttons**, you can reorder the slides as needed.
5. Now, press the **Close Menu Button** to close your new slide show. Remember, the system automatically saves it.
6. From the **FXC Main Toolbar**, press the **Clear Icon Button** to clear the FXC Display.

5.6 Module 6 - Playing Back an Existing Slide Show

This module explains how to play back the newly created slide show and demonstrates image animation within a slide show.

Steps

1. From the Menu Bar select the **File Pull-Down Menu** and select the **Open Slide Show** option. The **Open Slide Show Dialog Box** appears and contains a list of the names of existing slide shows. After selecting the desired show (the one you created above), the large Slide Show Dialog Box will appear with a list of the slides (Bundles). Also, note that the words "Slide Show" have been added in the title bar of the FXC Display.

Important!

Depending on the desktop environment of some Linux systems, your slide show may open but is iconified in the desktop toolbar. If this happens, simply open the desktop toolbar and double-click on your slide show name.

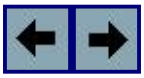
2. Select the first slide by double-clicking on the name of the slide. This will cause the first slide to be displayed. An alternate method for displaying the slide is to click once on the name of the slide and then selecting the **Load Menu Button** in the **Slide Show Dialog Box**.
3. Advance to the next slide by pressing the **"Down Arrow"** on the keyboard, or by clicking on the **Next Menu Button** in the **Slide Show Dialog Box**. The second slide containing the text information is displayed.
4. You can advance through the slide show automatically by selecting the **Auto-Load Check Button** and choosing the desired time interval between slides from the **Options Menu** next to the **Auto-Load Check Button**. Keep in mind that slide containing more data may need mmore time to display, and this may need a longer time interval between slides.
5. To exit the slide show, select the **Close Menu Button** at the bottom of the **Slide Show Dialog Box**.

5.7 Module 7 - Inserting a Text Slide into a Procedure

This module explains how to take an existing slide from a slide show and make it part of a procedure. Note: A procedure always retrieves the most current data from the data base while a slide show gets its displays from fixed jpg images. As a result, the displays created by a procedure will most likely be different each time the procedure is used, while the displays in a slide show will be exactly the same every time it is executed (unless the user modifies a slide).

Steps

1. Using the steps described in **Module 6** display the desired text slide.
2. From the **Menu Bar** select the **File Menu**, and then select **New Procedure...**
3. In the **pop-up menu** enter **Test** for the name of the new procedure, and click on OK.
4. This will cause the **procedure window** to appear (It will be labeled "Test" at the top)
5. Click on the **Add Button**. This will add the slide to the procedure.
6. To exit the procedure, select the Close Menu Button at the bottom of the Procedure Dialog Box.



6. Useful Tips

This section provides some tips and suggestions on how to create special displays and in some cases, simplify operational procedures. >

6.1 Creating Text Slides with a Background

It is considerably simpler to always create text slides using the "Text Only" option (and subsequently loading the logo image and replacing the background) then to use the "Image and Text" option. Using this approach, the user first creates the desired text slides and, when satisfied, adds the appropriate backgrounds to the slides.

6.2 Creating a Graphic overlay (such as a flight path)

This can be done by using the drawing tool to draw a line on a map background and saving it as Graphic X. This graphic is geo-referenced and can be overlayed on a satellite image or other data by loading "Local Graphic X" under the "Obs" menu. Currently, there is no "Range and Azimuth" support to help draw the line.

6.3 Saving Screen as a JPEG Image

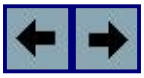
The size and aspect ratio of the newly created JPEG image is the same as that of the FXC Display Window. Thus, to obtain the best image quality it is suggested that the FXC Window be adjusted to closely resemble that of the desired JPEG image before saving the screen. For some applications it may be desirable to specify a fixed width of the image. The user can set the "JPEG Resolution" (under File menu) to the desired width and have the software compute the appropriate height.

6.4 Procedures to Monitor Weather

FXC procedures have several additional features that are not found on AWIPS. Procedures can be used to continuously monitor data or brief remote users. For example, a procedure can be created that routinely displays the local radar (AWIPS), a video cam (Web), and a graphical hazard product to local and remote users. This is done by enabling the "Auto load at x seconds" selector in the procedure dialog window.

6.5 Selecting Collaborative Mode

When connecting to a server in the collaborative mode, it is faster to depress the Collaborative Button first, and then select the desired server. The reason for this is that the private and collaborative servers are separate and distinct. Thus, if the server is selected first, a connection with the private server will be established first and then broken when the Collaborative Button is depressed (in order to connect to the collaborative server).



7. Appendix

This section provides specific information for Range Standardization and Automation (RSA) users. The primary use of FXC by these users is for weather briefings that include meteorlogical data displays and text slides. A number of html text templates have been prepared to assist with these briefings. The following instructions provide some guidance on how to adjust these templates.

CORRECTING SLIDE WITH DOUBLE TEXT
1. Load desired background (e.g. File -> images -> WR_logoBar.jpg)
2. Open slide show: File -> Open Slide Show > "name"
3. Expand slide (key to left of slide name)
4. Select "No Background Images" (or image name) below slide name
5. Select "Replace"
6. Slide is displayed with background (e.g. logo)
This should eliminate shadowed or double text.

MAKING BOTTOM OF SLIDE VISIBLE
1. Option menu > Toolbars > Main (toggle off)
2. Option menu > Toolbars > Drawing (toggle off)
3. Open up slide show: File > Open Slide Show > "name"
4. Expand desired slide name into its components (text and image)
5. Select / highlight "Text Overlay"
6. Select "Edit text .."
7. Depress "OK" in popup editing window
8. Slide should show additional info at the bottom
--- Restore toolbars ---
(9) Option menu > Toolbars > Main (toggle on)
(10) Option menu > Toolbars > Drawing (toggle on)

The slide will display with additional information at the bottom (Note, EDITING the slide with the two toolbars visible will cause it to revert back to the original format).

CORRECTING TEMPLATE WITH NETSCAPE COMPOSER
1. Start Netscape Composer
2. Open template file: file > Open Page > (popup window)
3. Select: /awips/FXC/fsl/data/templates/Western_Range/Text_Center.html
4. Click on "Open in Composer" (template will display with RSA tags)
5. Move cursor to right of unwanted "a", backspace, then space
6. Save as new template: File > Save as...> (popup window), and
7. Modify file name (in bottom window) to : /awips/FXC/fsl/data/templates/Western_Range/Text_Center_NEW.html
8. A new template has been created without the spurious "a"

NEW TEMPLATE WITH RULE 10
1. As above, open "Range_Safety.html" file with Composer
2. Move cursor on the same line and in front of "Rule:" (2), and
3. Depress right mouse button and select "Delete" > "Row"
4. Repeat steps 2 and 3 for Rules 3 through 7
5. Move cursor behind 1 and in front of : and enter 0 (i.e. 10)
6. Move cursor behind G (in LIGHTNING), and
7. Backspace over unwanted charaters and enter TRIBOELECTRIFICATION
8. Save as new template: File > Save as..> (popup window), and
9. Modify file name in bottom window to: /awips/FXC/fsl/data/templates/Western_Range/Range_Safety_NEW.html
10. A new template has been created for Rule 10

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